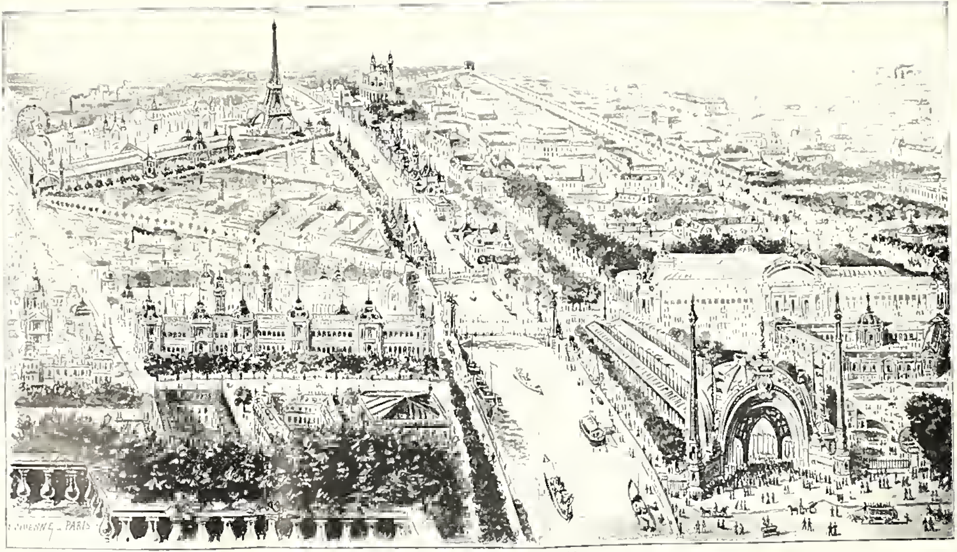
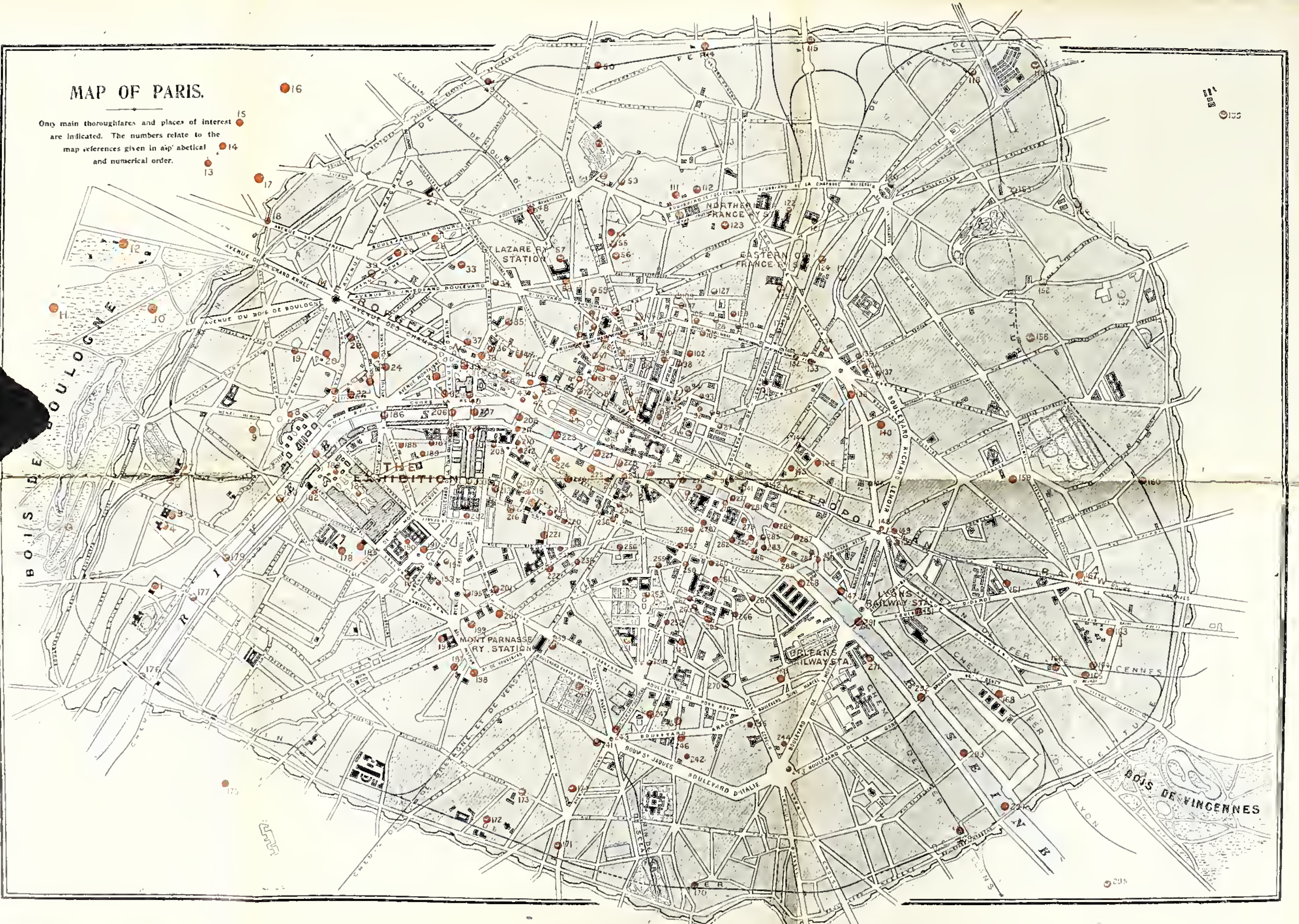


Bird-eye View of the Great 1900 Exhibition.

MAP OF PARIS.

Only main thoroughfares and places of interest are indicated. The numbers relate to the map references given in alphabetical and numerical order.



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SITE OF THE EXHIBITION.

THE Paris Exhibition of 1900 covers a larger area than any Exhibition previously held in that city. The site occupied comprises the Champ de Mars, the Esplanade des Invalides, the Trocadéro Gardens, a portion of the Champs Elysées, the quays on both sides of the Seine, between the pont Alexandre III. and the pont d'Iéna, and the park at Vincennes.

The total superficial area is as follows :—

Champ de Mas	124	acres.
Esplanade des Invalides	30	,,
Trocadéro Gardens	40	,,
Champs Elysées	37	,,
Quays on left bank of Seine	23	,,
Quays on right bank of Seine	23	,,
Park at Vincennes	272	,,
Total	549	,,

The superficial area occupied by buildings and covered in, is believed to amount to 4,865,328 square feet, distributed as follows :—

French Sections	2,691,000	square feet.
Foreign ,, ...	1,829,880	,,
Park at Vincennes	344,448	,,
Total	4,865,328	,,

The strip of land, on each side of the Seine, devoted to the Exhibition extends for a distance of 1⅓ mile.

About one hundred French and seventy-five Foreign pavilions and detached buildings have been erected in the grounds, without counting the thirty-six official pavilions of nations participating in the Exhibition ; these official pavilions are placed in a double row along the Quai d'Orsay.

L'ENTENTE CORDIALE.

TO nine readers out of ten the phrase which heads this column is rather a record of the Past than a purview of the Present, so far as it represents the relations of our neighbours across the Channel and ourselves. Yet it was the universal remark that at the opening of the great peace gathering of the nations, President Loubet was cheered more lustily by the English representatives than by any other body in the Palace; and although some of this pleasant felicitation may be due to the more cultivated lung power of the lusty Briton on such occasions, there is not the slightest doubt that the welcome offered by his English visitors was as heartfelt as it was sonorous. Superficial observers may cavil at the use of the term at the present juncture, but the fact remains that although since its coinage, which dates as far back as one can trace it, to the days of the Second Empire, there have been grave conflicts of policy and divergencies in sentiment and opinion between France and England, there has always been underlying them a storage of good feeling which defeats the machinations of the mischief-makers and the firebrands, and places above every other consideration the vital necessity to the two great Western Powers of an indissoluble lien of friendship.

It would be too grave an historical blunder to hold that their harmony in policy and in action is only traceable to the episode of the war in the Crimea. When the annals of the nineteenth century are written, it will be found that among the notable and beneficial landmarks of the period not the least important has been the peaceful development of the common interests of the two countries, identified with, and, it may almost be said, inaugurated by the commencement of Queen Victoria's reign. Her Majesty succeeded to the Throne on the 28th of June, 1838. On the 13th of July in that year the then Lord Mayor gave a great banquet at Guildhall, at which princes and nobles, all the representatives of the great Powers, and celebrites from all quarters of the globe, were present. Amongst the guests were Marshal Soult, Duke of Dalmatia, Napoleon's ablest general, and the Duc de Nemours, the son of Louis Philippe. When the trumpet sounded and the heralds announced the arrival of "His Excellence the Duke of Dalmatia, Ambassador Extraordinary of the King of the French, and His Royal Highness the Duc de Nemours," it was a sort of triumphal entry. The cheering was universal, and the "one cheer more" which greeted them at the last was never forgotten by the bystanders.

By and bye came the toasts and the healths. As a happy *àpropos* the health of Napoleon's Marshal and of the Duke of Wellington was coupled. The latter replied first, and spoke warmly of the esteem and friendship for the great soldier whom he had so frequently opposed in arms in Spain, and even upon French soil. The veteran of a hundred fights, following him, said: "I am overwhelmed by the kindly sentiments which the Duke of Wellington has shown. Never has there lived a more generous, a braver, and a more honourable man than the illustrious General. The French nation has learnt how to appreciate the merit of the English Army. All Europe knows its worth, but to-day the time has passed for recourse to arms; it is necessary that there should be a Perpetual Alliance between France and England." After alluding gracefully to the hospitality which he had received, the Marshal concluded thus: "Having been deputed by the King of the French to attend the coronation of Her Majesty the Queen Victoria, the Duke of Wellington has accorded me a reception which I shall never forget. He has shown himself on the hospitable soil of England as he has shown himself on the field of battle—noble and generous. I hope that he will favour me with the opportunity of taking my revenge in France, and testifying on my own soil the honour in which I hold him. I drink to the English Army and its leaders, and, above all, to the noble, generous, and illustrious Duke of Wellington." One of the French guests describes the scene of enthusiasm as surpassing anything he had ever witnessed, and the Duc de Nemours, turning to his neighbour at the table, observed, "It is perfectly true that everything encourages the confident belief that the two nations will never loosen the bonds of Peace and Union." It is perhaps worth while to recall the fact that the threatening attitude of the united forces of the two great Powers had just secured the independence of Belgium.

For a time it looked as if the peaceful prognostications of 1838 were in steady course of fulfilment. But in 1846 they were abruptly, if only temporarily, falsified by the Spanish marriages, due entirely to French initiative, and arranged in defiance of Lord Palmerston's remonstrance, by M. Guizot, Louis Philippe's Prime Minister. Isabella, Queen of Spain, was induced to marry her cousin, Don Francis d'Assisi, and the Infanta became the wife of the Duc de Montpensier, Louis Philippe's son. It was hoped and expected that one day the heir of the Orleans Prince would succeed to the Spanish throne. Yet in 1843 Queen Victoria had visited Louis Philippe at the Chateau d'Eu, and in the following year the King of the French had been Her Majesty's guest in this country, and the relations of the two Courts were as friendly as the pious aspirations of the Duc de Nemours depicted them in 1838. The Revolution followed hard upon the marriages. Malicious Continenal critics traced the hand of the English Minister in the downfall of the Orleans Dynasty. *Aut Palmerston aut Diabolus* was at the bottom of every political intrigue on the Continent, according to their light. Then came the change from the short-lived Republic to the Presidency, and the Second Empire, when the wheel took another turn, and "set fair" was the order of the day in the relations of the two Governments. Brothers in arms, the French and the English armies scaled the heights of Alma, and shivered in the trenches before Sebastopol in the Crimean winter. There is an incident of the war which illustrates the sentiment which inspired the French and English soldiers, and on which perhaps our own historians have not laid sufficient stress. It shall be related in the words of the chronicler of the fighting, for, perhaps, justifiably in our desire to render justice to the Light Brigade at Balaclava, we have overlooked the splendid and chivalrous daring of the body of French cavalry, which freely sacrificed itself to silence the murderous fire of the Russian batteries on the shattered remnants of Cardigan's troopers. "C'est magnifique, mais ce n'est pas la guerre!" was Bosquet's criticism of the charge which Tennyson immortalised. He might have uttered it with equal justice of his own squadrons.

They belonged to the 4th Regiment of Chasseurs d'Afrique, and were led by General D'Allonville. When they were close upon the Russian guns, the two batteries limbered up, and the two battalions of infantry supporting them fell back. There were heavy losses incurred in the brilliant charge, but their object was gained—complete immunity for the Light Brigade from the flanking fire. Kinglake, the historian of the Crimean War, says: "The troops engaged in this enterprise were not fellow-countrymen, but that is a circumstance which, far from diminishing the lustre of the exploit, gave it only a more chivalrous grace."

During the war the intercourse of the two Courts was as friendly as it could be. In 1855, on the eve of the opening of the first Industrial Exhibition in Paris, the Emperor and Empress were the guests of the Queen at Buckingham Palace, and Her Majesty and the Prince Consort returned the visit in the same year. In 1857 and 1858 a similar exchange of hospitality took place, on French and English soil. Yet in the midst of all these unmistakable signs of goodwill in the two Courts, and the growing fraternisation of the two peoples, there were not wanting evidences of the old rancour amongst certain sections of the Press and of Society. Pamphlets, scurrilous and defamatory, were published in abundance, and any amount of political capital could be gleaned by orators whose theme in Paris and in the provinces was intemperate abuse of England and the English. The assigned cause of this outburst of out-of-date animosity was the conspiracy against the life of the Emperor, alleged to have been hatched in London by Orsini and his fellows, and the acquittal of his accomplice at the Old Bailey, which inspired Charras' proposal to invade England with 25,000 French troops and sack London! History repeats itself. Within the last twelve months half a dozen Charras have drawn up similar programmes. England's only answer to the original challenge was the formation of the Volunteer Army. To-day we treat its imitators as simply devising their warlike programmes, as our neighbours would say, *pour rire*. At any rate, the malevolence of French scribes was silenced by a kindly letter from the Emperor to his representative in this country, Persigni; and in the Indian Mutiny, when speedy relief was required by our somewhat attenuated garrison, every facility for the prompt despatch of troops via Marseilles, over the French railways, to the East, was suggested and rendered by the French Government. The community of interests, to which the Duc de Nemours alluded in 1838, was recognised in 1860-61, when the Emperor, after frequent interviews with Mr. Cobden, declared in favour of Free Trade, and Mr. Gladstone brought in and carried his scheme for a commercial treaty with France.

Our neighbours have an old proverb, which has much of a truism about it, but which is pregnant with verities, "*Les jours se suivent et se ressemblent.*" For the last eighteen months the old Anglophobia has revived again across the Channel. It is due in a great degree doubtless to the Fashoda affair, and the monopoly of influence and power established by this country in Egypt. But the French people are bound to remember that English ascendency was not sought, but imposed upon us when Arabi Pasha overthrew the Egyptian Government, and at the solicitation of M. de Freycinet we engaged to co-operate with the French in suppressing the military revolt. At the critical moment, when the bombardment of Alexandria had to be undertaken, Admiral Conrad, with the French fleet, in obedience to orders from Paris, steamed out of the harbour from the scene of conflict, with the result that the task of re-establishing order in Egypt, as well as protecting it from Mahdist incursions, devolved upon England. It is not our fault if the sequel has disappointed the aspirations alike of Government and people of France. But, apart from the Fashoda affair, there has been another cause of friction between the neighbours. The trial of Dreyfus interested Englishmen as it did no other people, and in strange corroboration of the community of interest and feeling between the two nations, the proceedings of the Court martial and of the Civil Tribunals, and the action of the Government and of the military chiefs were as freely discussed by the English as by the French Press. It may be granted that in some respects the bounds of reasonable comment were exceeded, and that our strictures on the military authorities and the large section of the community which regarded Dreyfus as a traitor, were naturally and warrantably resented by them. But it became a moving force across the Channel. Some effort will be required on our part to counteract it.

The Industrial Exhibition affords to all Englishmen the required opportunity. It is a Peace Gathering, it is a Record of Progress, it is a Monument of Humanity. It revives the *Entente Cordiale* of which the Greenwich memorial of Lieutenant Bellot, the intrepid Arctic explorer, is an immortal reminder.

THE EVOLUTION OF UNIVERSAL EXHIBITIONS.

NOTWITHSTANDING the wars, and rumours of wars, that have disturbed the minds of the quidnuncs of European diplomacy during the last fifteen months, Paris holds its International Exhibition in the present year of grace, 1900, and, as usual, the Anglo-Saxon visitors will crowd its portals. Possibly the anticipation of this Victory of Peace has been an influential factor in its preservation, and the debt ought not to be forgotten either by the continental neighbours of France or the Governments and Peoples beyond the seas.

To the majority of Englishmen International Exhibitions date back from 1851, but it is a moot point whether the "National Expositions" which were held on the other side of the Channel, for more than half a century before the idea of the Prince Consort was taken up did not furnish us with a useful example and a healthy stimulus. As long ago as 1797, in the dark days of the Directory, an Exposition was held in Paris, and it was so successful. that it was succeeded the following year by one of a more popular character, and was repeated at various intervals under the first Consulate, the Empire, and the Monarchy. Altogether eleven of these shows took place, the last having been held in 1849, the year after the fall of the Orleans Dynasty, and two years before the building in Hyde Park was erected. But the consensus of opinion amongst the manufacturing and commercial classes in the country was, that the competition had cheapened manufactures, had provided a fresh field of employment for the working classes, and generally benefited trade. In fact, as a proof how closely the National Exposition trod upon the heels of the International Exhibition, we may quote a speech of M. Boucher de Perthes, President of the Societe Royale d'Emulation of Abbeville, which he delivered in favour of making the exhibitions universal, i.e., international. He used these remarkable and somewhat prophetic words, "Let us work, but let us be tolerant, and look upon every workman as a brother, whatever be his name, his colour, or his country. Let us not quarrel with competition. That alone will enlighten us, and point out the true path of our industry. It is competition which makes the good workman, because it is competition which indicates to each one his proper task. Exhibitions which have so beneficial an influence upon industry are but an embodiment of this rivalry. It is here that the producer brings the fruit of his labour side by side with that of his neighbour, and takes the measure of his efforts, estimates the merits of his productions, and sitting, so to speak, in judgment upon himself, learns more in one day than he could have learnt in one year of isolation and monopoly."

"Yes: Exhibitions are better than prohibitions, which tend only to separate men, and isolate them. Why then are these exhibitions still restrained within narrow limits? Why are they not instituted upon a scale truly large and liberal? Why should we be afraid to open our halls to manufacturers whom we call foreign—to the Belgians, to the English, to the Swiss, to the Germans? How noble would be a European Exhibition, and what a mine of instruction it would offer for all. Do you imagine that the country in which it should take place would be a loser by it? Do you believe that if the Place de la Concorde, opened this 1st May, 1834, to the productions of French industry, should be opened to productions of the whole world, do you believe, I say, that Paris, that France, would suffer, or that we should, in consequence, produce less, or become inferior? No, Gentlemen, France would not suffer any more than the foreigner, nor our city more than the Capital. Exhibitions are always beneficial, and beneficial to all."

Fortunately for England the Society of Arts, whose head quarters are in John Street, Adelphi, had elected as its President the Prince Consort, whose views in regard to competition were analogous to those of the Frenchman. About that time the repeal of the Corn Laws, and the Free Trade agitation on both sides of the Channel, had given a fresh impulse to the movement in favour of International displays, and throughout the country, in all the leading towns resolutions in favour of Industrial Exhibitions were passed. Curiously enough, in the year 1849, the tide had set in the same direction in France as well as England, and about that time the Prince Consort, as a guest of the Lord Mayor at the Mansion House, gave utterance to his conviction, that the collection and exhibition of the works of industry of all nations under one roof would "give a true test and a living picture of the point of development at which the whole of mankind had arrived in this great task, and a new starting point from which all nations would be able to direct their further exertions." At a meeting of a committee of the Society of Arts the Prince further embodied his idea by suggesting four great divisions of exhibits which should be displayed—Raw Materials, Machinery and Mechanical Inventions, Manufactures, and Sculpture and Plastic Art. And then he made his famous proposal for the employment of the vacant ground in Hyde Park, at South Kensington, on which subsequently stood the building of 1862, and where stands to-day the beautiful cross erected by Sir Gilbert Scott, a lasting memorial of the Prince and his noble work. He did not live to see the full realisation of his projects, for, in 1861, when he was working hard as President of the Commissioners of the International Exhibition of 1862, towards whose fund he was a guarantor of £10,000, death removed him from the field of his philanthropic labour.

The business arrangements of the Exhibition were about as perfect as they could be. It was opened by Her Majesty on the day fixed, the 1st of May, with Queen's weather, amidst a great concourse of people who could not have numbered less than a million, and in the Western half of the building, which was occupied by the British Exhibits, the display was completely in order. On the Eastern half, which was given over to the Foreign Exhibitors, many of the packages had not arrived for the opening, but within two or three weeks, from one end of the building to the other, the show was perfect, the Foreign Exhibitors numbering 6,556, and those of the Empire 7,382.

A better testimony to the confidence of foreigners could hardly have been provided, and it was rewarded by the distribution of the Council Medals, allotted by juries selected carefully on the representative principle. According to carefully compiled statistics the daily admissions by payment were 5,265,429, and those of Season Ticket holders 773,766. The largest number of persons present was during the last two weeks of the Exhibition, in the month of October, when over 100,000 were present in the building at one time on several occasions, the gross receipts reaching a total of £423,792. The total expenditure of the Commissioners, from the commencement of the building operations to the winding up, was £292,794, which left a balance in their hands of £213,305. With this surplus, and a Parliamentary vote of £150,000, large purchases were made of land in South Kensington, a portion of which was the well-known Gore House Estate, which was once the residence of Wilberforce, and afterwards of Lady Blessington.

These figures have been given, not so much because they possess much interest to the present generation, but because they have placed on record a financial success, never surpassed in the way of International Exhibitions, which has stimulated the repetition of such operations throughout the world, most of them having been attended with equally beneficial results, both as regards financial profits and advantage to trade.

In 1853 Exhibitions were held in New York and Dublin on the same basis as that of 1851, but, although they attracted plenty of visitors, pecuniarily they were failures. In the Irish capital the charge for admission was 6d., half that of the Hyde Park Show, but in proportion to the population the number of visitors was far more numerous.

In 1855 Paris changed her National Exposition into an International one, modelled as nearly as possible on the Hyde Park experiment. The exhibitors more than doubled those of 1849, and of the total number, National and International, 20,839, upwards of 1,500 hailed from Great Britain, and about 1,100 from the British Colonies. The value of the British Exhibits was estimated at about £900,000, inclusive of the Fine Arts Collection, and of the exhibitors amongst the Industrial Classes 931 obtained honorary awards from the juries; 15 a Grand Medal of Honour; 32 the Medal of Honour; 301 the First Class Medal; 353 the Second Class; and 230 Honorable Mention. The price of entrance in Paris was, to the working classes and on certain days to all visitors, four *sous*, and the total number of admissions between May and December was 4,533,464. The total receipts were about £118,000, but it must be remembered that in 1855 both France and Great Britain were engaged in a great war, that the Russian Empire was entirely out of the field, that English visitors to Paris were comparatively few in number, and that a considerable proportion of the British subjects admitted received workmen's passports free of charge.

The Committee of the English Society of Arts had always intended to hold a second great Exhibition in the course of a decade, and had been, in the meantime, diligently collecting a Guarantee Fund, but the war between Austria and Italy, and the complications in European politics which it entailed, compelled the postponement of the enterprise, and eventually it was decided to hold it over until 1862. It is interesting, looking back some forty years, to notice the arguments which the Committee of the Society of Arts put forward in support of their appeal, Mr. William Hawes, the Registrar-General, Colonel Owen, and Sir Cusack P. Roney, being mainly responsible for them. They contended that London would contain half a million more people than it did in the year of the first Great Exhibition, and that the population of the whole country would be increased by over three millions, and they urged that at least one-fourth of this increase would consist of persons too young to have benefited by the lessons of 1851. Within eleven years they showed that in England alone 4,000 miles had been added to our railway system, and that excursion tickets had led to a reduction of rates, which the managers of the big lines would not have looked at ten years previously. They pointed out the number of new Continental lines, all converging towards this country, shortening old routes and opening up new districts, the number of passengers between Canada, the United States, and the English ports, and the fares lowered thirty per cent. Distance and time between London and India and Australia had decreased from twenty-five to fifty per cent., and altogether our intercourse with our kinsmen across the ocean had increased by leaps and bounds. Here are a few more of the pleas put forward by the Committee, told in their own words. To-day the facts adduced seem to belong to the early days of the century.

"Photography, hardly known in 1851, has become an important branch of art and industry, used alike by the artist, the engineer, the architect, and the manufacturer."

"Marine telegraphy, only just accomplished in 1851, the public communication with Dublin having been opened in June, and that with Paris in November, 1852, has now become almost universal, linking together distant countries."

"The Electric Telegraph has become universal, and in every direction facilities for communication have been increased. We have repealed the duties on soap and paper, the only manufactures the prosperity of which was then thwarted by Excise restricitons."

"We have abolished all taxes on the dissemination of knowledge, and have given increased facilities for the circulation of knowledge by post."

"We have repealed the Import duties, or very nearly so, on raw materials, the produce of foreign countries."

"We have admitted, free of duty, confident in our strength, the manufactures of foreign countries to compete with our own."

"Old industries have been stimulated and improved. New industries have arisen."

"In Fine Art, Painting and Sculpture, it is hardly possible, except in very extraordinary periods, that a marked change can be observed in a single ten years, but this country certainly holds its own as compared with the productions of other countries."

"In the manufacture of iron improvements have also been made; new bands of ore have been discovered; and day by day we are economising its production; and a metal between iron and steel is now produced at one process which heretofore required two or more processes, alike expensive and difficult."

"In Steam Power, especially that applied to railroads and to ocean steam navigation, economical appliances have advanced rapidly."

"The use of coal for locomotives in place of coke, and super-heating steam and surface-condensing in ocean steamers, tend to increase the power and economise the cost of these powerful engines of civilisation."

"In shipbuilding the past ten years have produced great changes."

"Our Navy and Mercantile Marine have alike advanced in scientific construction and in mechanical arrangements. The ocean steamers which were then employed in the postal service included but one of two thousand tons; now there are many of nearly double that tonnage, with corresponding tonnage and speed, increasing the facilities and decreasing the risk of communication with our Colonies and foreign countries."

"In printing great advances have been made by the perfection of chromatic printing, views of distant countries, copies of celebrated pictures most beautifully coloured, have been brought within the reach of almost every class, displacing works which neither improved the taste nor gave useful information, and by the application of most expensive and most beautiful machinery to the printing of our daily journals we have been enabled profitably to meet the increased demand caused by the cheapness of our newspapers. Invention and mechanical contrivance have thus kept pace with the requirements of intellect and the daily increasing love of knowledge."

It is noteworthy that of all the countries exhibiting in 1862, France and her colonies took the first place. The French exhibitors numbered somewhere about 4,000. That was just double the number of the representatives of the "Zollverein," which then stood for the German States outside Austria and the Hanse towns, and of Italy, which came next to her. Nor will anybody who can distinctly recall the display made by the French exhibitors in their Court and its approaches deny, that about the most lasting impression created outside the British half of the Exhibition was that which the taste and harmony and ingenuity of our nearest neighbours produced.

Here is a picture of the aspect of the French section from the pen of Mr. Hollingshead, which has not been without its lessons for 1900:—"The French Court and its approaches form a perfect exhibition by themselves, undisturbed by any jarring tints or effects produced by unsympathetic neighbours. Everything that human ingenuity, money and taste can produce is exhibited in the Court, and it will be from no want of energy if they fail to carry off the first prizes. Our great industrial rivals are determined to give us a royal entrance to their kingdom within a kingdom."

"The Portico to their Court which they have erected in the Nave is of cast iron, and manufactured by M. Barbezat. It forms a corridor seventeen feet in breadth, twenty-five in height, and extending East and West one hundred and fifty feet, the entire length of the French Court. The portico in the centre has three divisions between four leading columns. The East and West divisions, ten feet in width, are entrances to the Exhibition. The Centre division, twelve feet wide, is backed by a noble sheet of spotless plate glass, perfectly transparent, manufactured at St. Gobain. The dimensions of this glass are ten feet and a half broad by sixteen feet and a half high. At the foot of the glass is a richly ornamented couch or divan for public use. The sides are protected by lions of cast iron, the size of life, placed on pedestals of granite. Its centre division is surmounted by the Imperial Arms, and is decorated with flags. The entrances on either side have chandeliers in bronze and gilt inlaid with crystals. The diameter of these chandeliers is six feet. The four main columns of the portico entrance are hung with carpets of various exhibitors from Aubusson and Paris."

"Along the entire length of the corridors, on either side, is space for exhibitors' goods, divided off by a light fencing of cast iron. Here are exhibited carpets of various kinds and furniture in ebony and other woods—some of particularly light and fantastic design. The corridors are in some parts enriched with paintings, and at intervals are monumental mantel-pieces in carved wood, bronze and marble, which occupy the central space of the corridors like trophies in the nave."

Since 1862, as might have been expected, France has led the way. Paris has laid itself out for inviting the foreigner and re-asserting its old influence as *la ville lumière*, and it has succeeded. Perhaps in years to come the influence of the International Exhibition, not only as a means of developing the resources of the country and the energy of its population, but as a powerful influence for peace, will be duly recognised. And one considerable advantage our friends have is their happy facility for combining business and pleasure. The Eiffel Tower itself is a monument of French ingenuity in this respect, and when one takes up a map of the Exhibition buildings and notes the admirable method with which everything is subordinated to the governing idea of a *vie de plaisir*, one feels instinctively that Paris can have no rival. At any rate there can be no doubt as to the multitude of useful purposes to which the Exhibition of the present year is to be devoted.

In glancing at the general classification of the exhibits of 1900 one is struck by the exhaustiveness of the catalogue. The old Latin joke, *De omnibus rebus et quibusdam aliis*, does not travel much beyond the list of objects that will reach the eyes, and of subjects that will provide food for the reflective mind of sage, philosopher, poet, painter, artisan, and agriculturist. It looks very much as if the forty years which have run off since 1862 had been taken up in formulating constantly new problems for the rising generation, and the question arises, whether the universality of the knowledge paraded before the public may not tend to make a nation of smatterers rather than of scientific workers. Still, for the earnest student at work in any branch of culture which is to be found in the Paris Exhibition, there will be opportunities afforded for the gain of knowledge such as have not been placed within his reach for years, and unless the wisdom of all our committees and Commissioners for the last half century is foolishness, the general public must reap the fruit of the tree of knowledge planted in their midst. One thing is quite certain, British and American visitors will find, in the *menu* put before them a hundred fresh inducements for a trip to Paris. And in this way the benevolent and statesmanlike purpose of the authorities and the interests of the Parisian householder will be equally well served.

In the Anglo-Saxon Guide to the 1900 Paris Exhibition it has been the endeavour of the Editor to facilitate this interchange of ideas, and to furnish such useful information as will lighten the stranger's difficulties, when he sets foot in a French port or in the street of the gay capital. Once in Paris, and within the portals of the grand storehouse of the world's products, the visitor will not require a better cicerone than will be found in the pages of this little volume. Perhaps to those whose memories carry them back to the precursors of all these Great World-Shows, nothing will be more remarkable than the strides which our National Industries have made in the last forty and fifty years. Many of these were in their infancy, as the figures quoted on another page will show, when the first Hyde Park project was set on foot. To-day they have grown to be pillars of the Empire's wealth and strength. The highest eulogium of the men who started International Exhibitions is that the recorded progress of each nation is the gain of all. Each learns useful lessons. Each obtains new grafts for their tree of knowledge. There is no capital where this truth has been so strongly manifested as Paris, or the facilities of intercourse are readier and more abundant. Sixty years ago Mrs. Trollope wrote that the only two words an Englishman wanted in his dictionary when he crossed the Channel were *Manger* and *Changer*. Cheap trains and quick services have altered all this. It is to be hoped that no cloud will appear in the horizon, far or near, to mar the peaceful prospects of the British and Trans-Atlantic traveller on his way to study the Arts and Crafts of the close of the nineteenth century in the capital of the French Republic.

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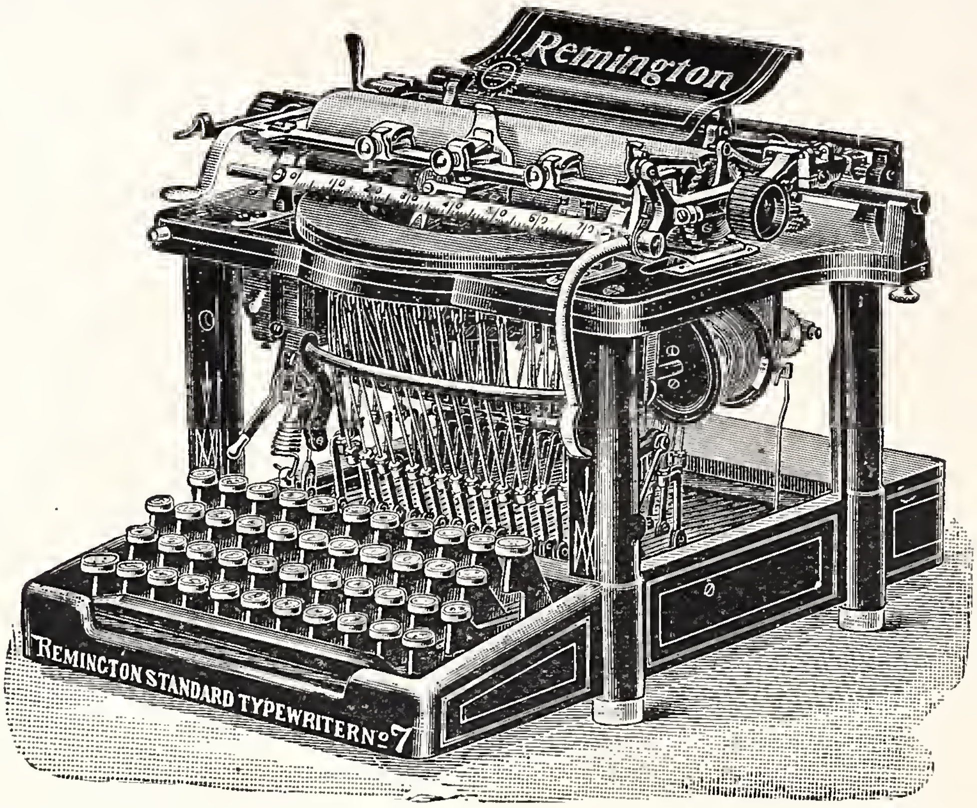

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LOST.—"OH, DEAR! WHY CAN'T FATHER KEEP WITH US?"

THROUGH THE EXPOSITION

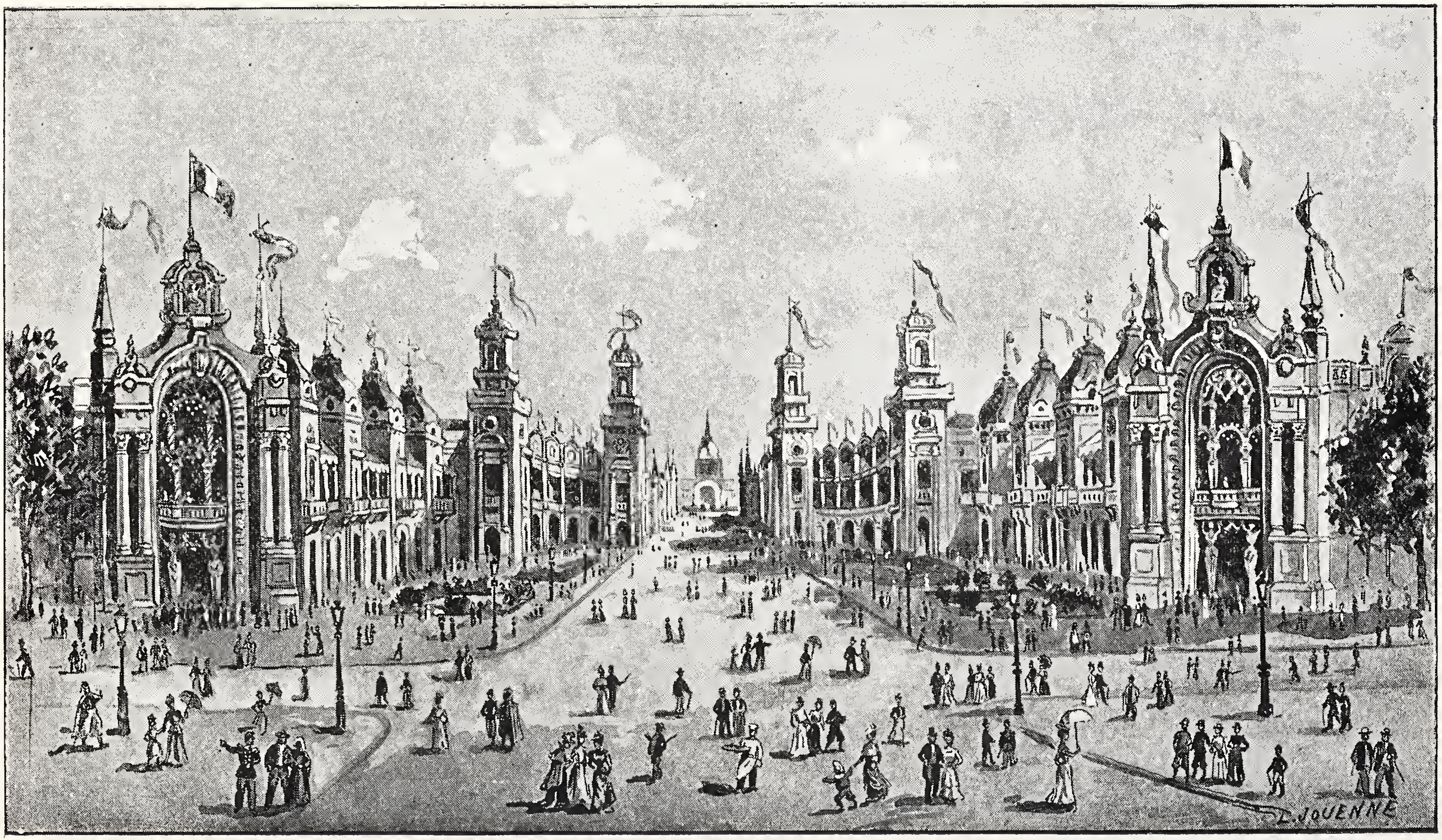
By an Ordinary Average Anglo-Saxon.

ONCE again has the Fairie City of the world, Paris, in her fingers twirled the magic wand tipped with golden fire; once again at her bidding have the palaces of beauty and pleasure, laughter and light, the like of which has never before charmed the peoples of the earth, sprung into sudden splendid being, and once again does the Fairie Queen, in Liberty cap and short gown, by the toss of a kiss from the tips of her fingers call to all the world to come and be bewitched. The call has rung through the nations, spread as by the four winds of heaven, and in every corner of the earth men and women, youth and old age, have heard the cry of welcome, and have come to join in that

"rustling that seemed like a bustling
Of merry crowds justling at pitching and hustling,"

for the children of the world gladly hearken to this fair piper, Paris, and hasten to be swallowed up not in a mountain, but inside the walls of this brilliant city for a time. For France of all nations and Paris alone of all cities, know how to gather all peoples together, and, let them be never so diversified in their tastes, Paris will understand how to make each one of them happy for the time, long or short, that he or she stays within the walls of the capital. She, Paris, is shaped for jollity, her face is an invitation, her "cute" ways and the art of her are irresistible, her airs and graces are entrancing, and the enchanted people, each time she issues a notice of one of her brilliant "at homes" —well, there is nothing for it but to accept. Each successive invitation has been more comprehensive than the last, for as the years pass she grows younger, and, as the Americans say, more "fetching," and the very surliest of us all are forced to smile in sympathy with her glee.

And this International Exposition of 1900 far surpasses anything the world has been privileged to behold. Verily Paris has put her best foot foremost, and there is no best foot in the world to be compared with the best foot of her. Stoical, even dull London, bustling, blistering, dusty New York, sedate commonplace Berlin; any other city one cares to name, all the cities of the world taken together, what know they of International Exhibitions? Not one of them all has such a genius for furnishing delights, no one of them has the light, the laughter, the go, the pleasing prospects, the sweep, the very hysteria that goes towards the making of an Exposition where peoples of all tastes, manners, and bent can shake themselves free from cares and get quite away from the dullness of everyday affairs. Here in Paris



THE INVALIDES BUILDINGS AS SEEN FROM PONT ALEXANDRE III.

is the clear exhilarating atmosphere; here are the gloriously broad avenues, the all-incompassing circle of pleasures, and sights and sounds; here the hilarity of a holiday is ever in the air. Paris knows the art of joyous existence; she has learned everything that goes towards the making of enjoyment, and allures the more solemn and perhaps sadder nations. This land of polish and politeness, of dames and dance, rich in history, rich in treasure and art, rich in the art of living, once again calls on all nations to forget for a season at least their strainings and rivalries, and to join in the profitable revel of an International Exposition. This year and now Paris is prepared to rejoice with those that rejoice; you can see that on every hand. She has constituted herself the friend of one and all; she will give all people a welcome, let them come in whatsoever mood it seems best to them, and when the parting comes, she is determined that they shall look back with pleasant recollections to the end of their lives upon the holiday they spent in Paris in 1900, and the hospitality that was shown them by the French nation in general, and the citizens of Paris in particular.

To say that this International Exposition of 1900 surpasses anything hitherto accomplished in the way of universal instruction and entertainment would be to convey no just idea of the magnitude of the national accomplishment. Even a cursory glance at the bird's eye view and ground plan of the whole, which may be found in this Anglo-Saxon Guide, will prove to anyone that the Exposition is a city in itself; but a journey—one can call it no less—about the grounds and through the multitude of buildings soon convinces one that the Exposition of 1900 is stupendous in size as it is multitudinous in interest and variety. The nations of the world are gathered together on a plateau of ground in size befitting the all-world character of the scheme. And that every visitor may have a gate at his very doorstep, here they have made the principal entrance abut upon the Place de la Concorde, the decorative heart of the gay city. To the right is the broad sweep of the Avenue des Champs Elysées, most glorious avenue of this gay city of avenues and boulevards, its trees green, restful to the eye and inviting in the days when the sun's rays beat strongly upon the city, and its broad carriage way and pavements swinging upward, to be nobly crowned by the Arc de Triomphe. Indeed this view from the Place de la Concorde to the Arc de Triomphe is one of the most striking sights of Paris, and, lying as it does, at the very threshold of the Exhibition, it makes a setting wholly befitting the treasures that it on one side encloses.

Even before one enters the beautiful grounds one has begun to view the sights of the Exposition. This gateway of the Place de la Concorde is in itself a revelation. It stands as a veritable scintillating, airy entrance to the many Palaces of Delight. On either hand of it towers a decorative obelisk, each of which, although by no means a cloud of smoke by day, is certainly a pillar of fire by night. Employing the artistic genius which the world freely acknowledges the French people to possess, they have made this gateway to typify, to epitomise the light and colour and harmony of the Exposition itself. Architecturally the structure is graceful, light, and inviting, a mighty arch though it be; and cunningly they have arranged the myriads of electric lights, and with the greatest care they have chosen and blended the colours, so that at night the whole shines as if designed to be the entrance to the realm of stars. Another people might have overdone this part of the work easily; another people, perhaps, would have run the risk of making this entrance too much of a glare, too fiery, too harsh, for strong electric light is given to harshness. But the French have mixed the colours in such a skilful manner, that, while, the light retains all its powers of attracting attention, still the eye can rest with comfort and great pleasure not only on the design as a whole, but each detail of the scheme of light and colour as well. Never has the most brilliant and beautiful of illuminants been used with a more lavish hand, never more judiciously, than in the Exposition in general, and this gateway of the Place de la Concorde.

Passing through this beautiful gateway the visitor finds himself—I will use the masculine to denote both genders, although the chances are the fair sex will be, numerically, as strong as the male—at once among the shrubs and flowers of the chief section of the Horticultural Exhibition that are scattered all round the grounds of this huge Exposition. The managers of the national undertaking have seized upon each little remnant, all the odds and ends of ground that escaped the attention of the builders, or were not needed for esplanades and avenues, and handed them over to the lovers of flowers, and shrubs and trees, so that at every turn the visitor comes upon natural delights. Here, between the trees of the Champs Elysées and the swift, swirling waters of the Seine, and running from the principal entrance to the Pont des Invalides, the larger portion of the land is trickily laid out and utilised for a gorgeous display of flowers. When on the subject of horticulture it may be as well to mention, that other beautiful gardens will be found in front of the grand Beaux-Arts building, two more, one to either side of the south end of the Pont Alexandre III., while another—this one of substantial proportions, agriculture being included—on the northern

THE FINE ART PALACES.

bank of the Seine, between the Pont des Invalides and the Pont de L'Alma, and in many other places, smaller gardens may be found. No one can say that Horticulture and Aboriculture have been neglected in this all-encompassing Exhibition.

A walk, then, along the paths that lead west among the shrubs and flowers, brings one to one of the grandest vistas of this Exposition of grand vistas. And here it may be told that if one wishes to be instantaneously impressed with the magnitude and marvellous beauty of the Exposition, the very best plan would be to enter by the gate that opens out of the Champs Elysées, where, in days before the beginning of the present show, stood the rather ungainly Palais de l'Industrie. But coming upon the Exhibition by that pleasant way, one would miss the thrilling surprise that awaits the visitor who enters from the Place de la Concorde, and suddenly finds himself standing in the open space before the spacious Pont Alexandre III. Facing towards the Champs Elysées he finds a broad avenue with, on either side, the magnificent and new buildings—permanent attractions these to already fair Paris—that are devoted to the fine arts. Turning round with his back to this avenue, he beholds, as has been said, the most splendid vista this Exposition affords. Immediately in front of him are the statues and abutments of Pont Alexandre III., then the length of the bridge itself, further on a wide esplanade between the immaculate buildings that are devoted to the exhibition of the manifold and diversified industries of all lands, and this esplanade leads the sight irresistibly on until the eye is smitten by the view of the Hotel des Invalides, the gilded dome of Napoleon's tomb springing against the sky finishing the picture with the most effective completeness. Such a view as this would of itself make the fame of any exhibition. Here it is but one of manifold attractions, yet a most effective one.

The visitor who has made up his mind to conscientiously "do" the Exhibition—his name is legion, and for him, in particular, this Anglo-Saxon Guide is intended—will naturally visit the buildings allocated to the Fine Arts before venturing across the Pont Alexandre III., to explore more distant fields. Of the two buildings that are dedicated to the Fine Arts that one devoted to a retrospective exhibition of the Fine Arts of France is much the smaller, as, indeed, the scope of its contents is smaller than that of the "Beaux-Arts" building. However, the smaller and the larger building, each is exquisite in its way; and, generous enough in point of accommodation, they form together one of the many glorious architectural attractions of Paris. The exterior of these two buildings will be carefully studied by all lovers of the beautiful in architecture and sculpture. The larger, that which is devoted to the Fine Arts of the nations of the world, is a most striking structure. The stately pillars that stand in a grand row round the building, the noble statuary, the colossal figures, that represent the various Arts, examples of which are to be seen inside, the gorgeous mosaics, and the surmounting dome of glass, when the sun strikes upon it, stand forth in almost dazzling whiteness. This building is intended, as has been said, to be a permanent attraction to Paris.

The time spent in a leisurely stroll round it, examining its outside features, will be time well spent. It is a vastly different edifice from its predecessor, the Palace of Industries. But, while assuring a pleasing face to the building, the purpose for which the whole was designed has been well looked after. A crystal roof admits a flood of light to fall at proper angles upon the Art treasures of the world, so that each picture, each item, gets its proper share. The front of the building, that is, the end that faces towards the Avenue des Champs Elysées, is devoted to the Art of France. To be sure, France, while not denuding her great galleries of all their choicest treasures, has gathered together a thoroughly representative set of pictures, and this section of the Exposition will, perhaps, hold a majority of the visitors for a longer time than any other.

Very close upon a half of the large building is taken up by France herself. On the other side of the great central hall, above which the dome of crystal springs, are the exhibits of the nations of the world. Russia, as is the case in a majority of the sections of the Exposition, makes a good show, and has secured a most favourable position. As he passes from section to section of this splendid building, the visitor suddenly steps from the atmosphere of one country into that of another, until he has gazed upon the skies, the landscape, and seen the peoples, and noted the quaint costumes, of the whole civilised world, and some parts of the world that are not civilised.

Those who visited the last Exposition held in Paris will not have forgotten the splendid array of pictures then on view. They were acknowledged to form one of the most successful of all the endeavours made to interest and instruct the visitor by the Council of that enterprise. But the display of 1889 can scarcely be compared with that of the year 1900.

The student of Art is likely to betake himself first of all to the other building of this section, that devoted to a retrospective representation of the Art of France. Although nothing like so generous in size, this

VILLE DE PARIS AND HORTICULTURAL BUILDINGS AS SEEN FROM PONT ALEXANDRE III.

building, too, is a beautiful one. Outside, the most noticeable features are, first of all, the frieze of bas-relief that surrounds it under the eaves, and, secondly, the splendidly executed and magnificently proportioned statuary that adorn the structure. Inside is found a display that to the Art student is simply invaluable, and to the general public is interesting and mind-opening.

Having finished with the Fine Arts for the time, the visitor sets his face towards the bridge. This Pont Alexandre III., is another feature of the Exposition that is a permanent acquisition to Paris. No one can forget the enthusiasm with which not only Paris but the whole of France greeted the Emperor of all the Russias when he reached the capital and laid the foundation-stone of this Pont. Many bridges have accumulated history round them; this one took its place in the world's history with the laying of the initial stone. The first feature of this bridge that strikes the eye of the spectator is that formed by the four stately columns, one on either side of each end of the bridge, each column bearing high upon its head, in golden splendour, Pegasus, that winged horse, representative of the muses, the embodied ideal of poetic inspiration. Flaming in gold, Pegasus springs, shining against the blue sky, when viewed near at hand, or standing a gilded plash against the dazzling whiteness of the Exposition buildings, when seen from afar. At night, when the restless eye of the great electric light focusses upon one or other of these figures the result is startlingly beautiful. Small wonder, if Pegasus looks like these representations, that the choicest spirits of the world strive to mount the beautiful winged horse. At the foot of these columns are the best examples of sculpture for effect in the open air that are to be seen in the Exposition. The figures of Fame, Justice, Peace, and Art are noble in countenance and poise, and colossal in size. They sit in their majesty and gaze with a calm, ennobling gaze upon the hosts that pass upon the broad and beautiful bridge. And when the last trace of the buildings of the Exposition of 1900 disappear from sight, these figures and this roomy bridge with its gracious span of the river will remain, the noblest monument to the greatness of the world's fair.

Across the bridge, and for the first time setting foot upon the south side of the Seine, the visitor finds himself in a busy world. He has left the Arts behind and steps into the greater world of commerce. To the left and the right of him, looking towards the gilded dome of Napoleon's tomb, he beholds a part of the Exposition whose buildings look curiously like sugar-coated wedding-cakes. Each particular department seems to have wished to have something unique of its own in the way of a frontage to its building, and as all are joined together in two long rows, between which runs the Esplanade des Invalides, the effect is a quaint jumble, forming a striking contrast to the majestic Beaux-Arts building. But this view has its charm. The buildings, to the eyes of an Anglo-Saxon, and more especially to those who live in the duller atmosphere of England, are startlingly white, and the row of coats-of-arms or crests of the great cities of the world, all painted in vivid colours, make a scene dancing with warmth and light. One of the first of these coats-of-arms to strike the eye of the visitor is that of London, which looks down upon the multitude from the building to the right of the Esplanade. Underneath this broader portion of the

Esplanade is an underground railway station, and the French, their eye ever set upon plenty of light, have not made the part of the footway devoted to light traffic of asphalte or stone, such as appears in the pavement of cities, but of glass, and thus a flood of light is let into the station. This is done wherever possible, and is quite a feature of the underground railway of Paris.

The buildings on either side of this Esplanade des Invalides are devoted to many industries, but the decorations and fittings of houses of residence and public buildings are the striking feature of the display. That row of buildings to one's left, looking towards Napoleon's tomb, is chiefly, if not indeed entirely, devoted to France and French productions, while the row of buildings to the right is filled with the handicraft of other nations. Facing upon the Esplanade, Switzerland, Japan, Denmark, Great Britain, the United States, Germany, Russia, Belgium, and a few other nations have roomy spaces in which each nation tries her best to put before the millions of visitors that will pass through the buildings a representative assortment of objects, to prove the skill and accomplishments of her craftsmen. Occupying the very centre of this collection of nations Great Britain has her stand, and the space allocated to her is, I think, larger than to any other foreign nation. On her right she has the United States, and on her left Italy, while Russia and Germany lie side by side. Japan, youngest of all great nations, is worthily represented, and has made as striking a show as any of her older sister nations.

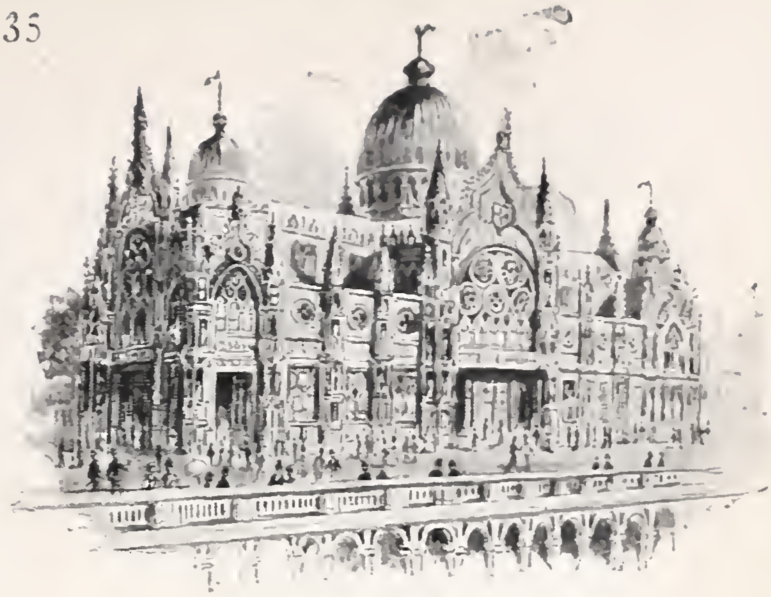
Altogether these buildings are the place where the business men of the world will put in hours crowded with instruction and insight into the value of the handicrafts of these people who are contesting for the world's trade. Here the genuine is made known and the spurious detected; here prices, as well as workmanship, are compared, for the representatives of the various countries are anxious to give all information that the curious as well as the searcher after knowledge cares to ask for.

From this hive of industry the conscientious visitors' route turns to the west, along that part of the famous Quai d'Orsay, that thoroughfare so often quoted by correspondents in Paris who write of French political affairs. The Boulevard de Tour-Maubourg is crossed, and the visitor finds himself in the colony of nations, which, for this occasion only, France has succeeded in annexing. On either side of the Quai d'Orsay, reaching the whole distance from the Pont des Invalides to the Pont de l'Alma, is a row of buildings, each supposed to be typical of the various countries to which they belong, and by whose enterprise they have been erected. All the great nations, Russia alone excepted, strangely enough, are here represented, many of the second class Powers, and a few, such as Finland, which are not independent Powers at all. Here visitors from every land will see sights familiar to them. Their own flags float above them, and their pride of country, their patriotism will be stirred into active being and respected by all.

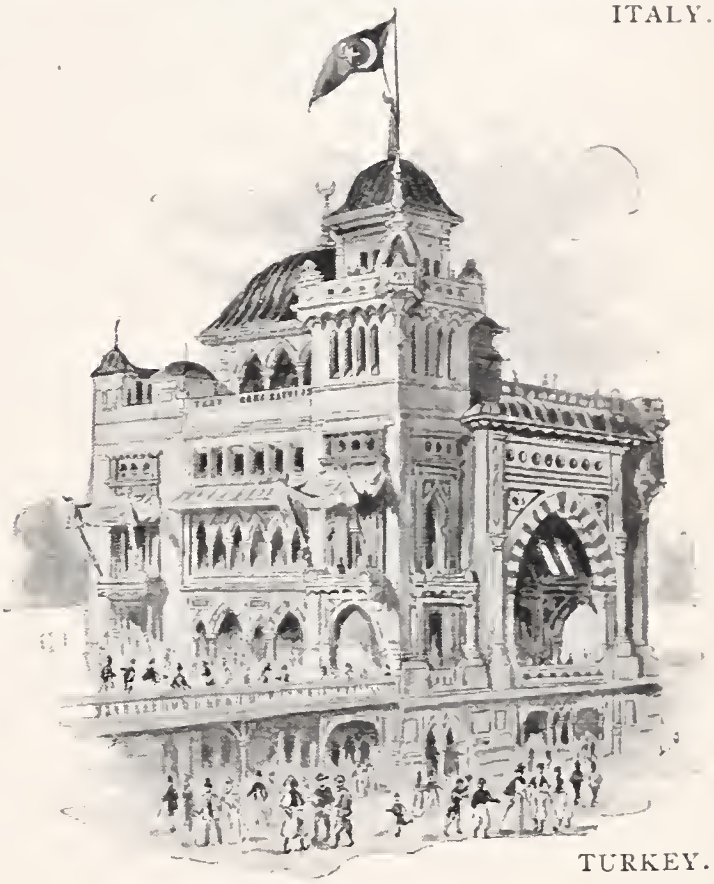
Between the Quai d'Orsay and the river the Great Powers occupy most of the space, but the subsidiary row, if such it may be termed, to the other side of the thoroughfare, contains some of the most strikingly picturesque buildings of this international colony. As one cannot keep dodging across the Quai d'Orsay, after inspecting each building, without great inconvenience, the best plan is to take one row of buildings at a time, passing through one and immediately entering its next neighbour to the west, and when that row is finished, striking back through the second row, finishing up by strolling westward again down the Quai d'Orsay, thus having a general review of all that one has seen in the two previous journeys.

So we will take the row of buildings devoted to the greater nations, that row which runs along the brink of the Seine. It has a fitting beginning. To Italy has been given the initial site, and right well have the Italians risen to the occasion. Italy's building of fanciful, beautiful architecture speaks clearly of the sunshine of the glorious Mediterranean Peninsula, and although Italy is perhaps the smallest of first class nations, she is here represented by one of the largest of buildings. From afar her pavilion stands forth a striking feature of the Exposition. Truly she makes the beginning of these "Pavillions des Puissances Etrangeres" a remarkably effective one, and the French people take it kindly that their close neighbour, Italy, has put forth such efforts to make the International Exposition of 1900 a success. Inside is found such a display as one would expect the sunny clime of Italy to produce, and, coming, as it does, before the tourist is weary of a surfeit of riches, Italy's exhibits are certain to be carefully examined.

Next to Italy stands the Turkish pavilion, a blunt square erection, suggestive of the buildings that are the feature of Turkish architecture. Here the solemn men in their fezes and baggy pantaloons go about their business in silent geniality, the show inside reeking of the



ITALY.



TURKEY.

UNITED STATES.

Oriental bazaar. The Turks find an unaccustomed neighbour in the United States.

America has done herself justice in her building, and it is unfortunate that she is jammed so tightly in between her two nearest neighbours, for, only from across the river, or on the river itself, can a serviceable view be had of the architectural beauties of her splendid pavilion. It is, as it was almost bound to be, a replica, in a modified form, of the Capitol at Washington. To be sure the proportions are not kept between the building and the dome itself. This would have made the latter a triviality here, instead of which it now is one of the features of the colony of nations. On each corner of the building a splendid eagle spreads its wings, typifying the breadth and freedom of the mighty English-speaking Republic across the Atlantic, and the dome, surmounted by a flagpole, carries the stars and stripes high up among the flags of the world. English visitors will appreciate the display in this pavilion, as much as the Americans themselves, for here one can note the cool common-sense of a peaceful people, combined with an ingenuity that peculiarly belongs to the peoples of the North American continent. The United States are busily engaged in teaching all people that on earth do dwell the possibilities of their broad continent, and their display at this Exhibition will assuredly help to spread the truth.

Adjoining the United States, to the west, is the pavilion of Austria, which as a mere building perhaps will have no great charms for Anglo-Saxon eyes. Certainly it is roomy enough, and it has its characteristics and eccentricities, but viewed as an entity it is not becoming. But there is one feature about it that is distinctive. "Feature" is the word to describe it, for it is nothing more or less than a gigantic nose. Not one nose, indeed, but many noses, and all of them atrociously large. Glance about the chief doorway, look round the corners of the pavilion, and notice the faces leering, frowning, grinning at you from every quarter, and each face the proud possessor of a gigantic nose. These noses are of all sorts, except that no small, no short one can be found, and the one above the doorway looking out upon the Seine is quite a masterpiece in its way. This "feature" of the Austrian pavilion is the only humorous touch that is to be met with in all the colony of nations. The building itself, though unpicturesque, is large, and Austria's exhibits are worthy of the great country. Farther along "little," as we are given to look upon her, Bosnia has erected a surprisingly fine pavilion, and displays to the world an exhibition of natural wealth and craftsmens' skill that will astonish those who do not know the resources of the land. The style of architecture adopted in this pavilion is one eminently fitted for a whole series of Romeo and Juliet scenes to be enacted at one and the same time. The edifice is crowded with balconies, laughably so to a people who do not use a balcony for any other purpose than occasionally to shake a duster out of it. But in Bosnia they know the value, the comfort, the luxury of a balcony, and seem to make the utmost use of it. The style of architecture is a wonderful mixture, and in this typifies the people who have erected it, for the people of Bosnia are of a very mixed ancestry, Servian by extraction, and mixed with them Greeks, Turks, Gipsies, Jews, Armenians, Hungarians, Italians, Germans, and others.

But, however mixed the race, and however limited the population, Bosnia's pavilion takes rank with those of the greatest Powers, and from its many balconies the Bosnian merchant and manufacturer will woo the Romeos of the world to come to trade with them in fair Bosnia.

Next to Bosnia, Hungary. Now Hungary has "spread herself" as the slang phrase hath it. Hers is one of the finest pavilions that graces the Exposition grounds. But if Bosnia's pavilion is remarkable for niches and balconies, Hungary's is noticeable on account of the multitudinous effects in a comparatively small space.

The pavilion offers many striking points. Here a section of it looks like a bit of an old castle, next to this—I am, of course, not giving the order in which the different effects come—is a great church window, then comes a part of a mosque, again a great dovecot, and so on, until one marvels at the jumble that is, when taken as a whole, so very effective. The colouring of this pavilion, too, is peculiar, greys and yellows and dull reds being used with great effect. Like the United States, Hungary has flung an arch across the pavement that fronts the Seine, and foot passengers pass under this, so that all are forced to accept the hospitality of a Hungarian roof in their progress along the way. This is, all in all, a most noticeable building.

Stepping from under its great steeple the visitor finds himself in front of the pavilion which stands for Great Britain. The chances are that nine hundred and ninety-nine out of every thousand who clap eyes on Great Britain's headquarters at this Exposition will be sadly disappointed. Many will be sorely so. For a more

AUSTRIA.

BOSNIA.

HUNGARY.

unpretentious, square, uncommunicative, stolid, unromantic building is not to be found in the whole cluster of nations' buildings. It may be a severely correct example of some specific idea of architectural form, but to the ordinary mortal, unlearned in the way of the designer, it looks to be a cross between the jerry-built Bedford Park and a City warehouse. It is disappointingly square, aggravatingly squatty, and astonishingly plain, and gives not the slightest idea of the world character of the British Empire.

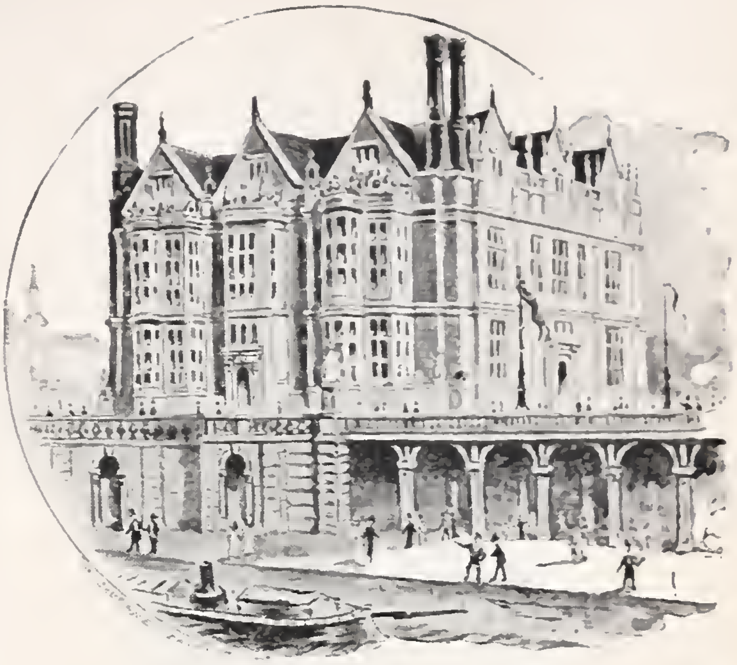
Well for us that some of the Colonies have seen to it that their resources should be placed before the world in pavilions of their own. Although from the outside the pavilion is unattractive, its colour is decidedly against it, inside it is found to contain much more room than might be supposed, and the space has been utilised to the very best advantage. Strangers who may be disposed to wonder at the building will have no cause to shrug shoulders when they once step over the threshold, for, once inside, they will see proofs of the vast wealth and infinite resources of the United Kingdom of Great Britain and Ireland. It is pleasing to the Briton to find that the Exposition people have given his country a central position in this colony, and that on one side, the westerly, there is ample space for the spectator to move about and examine every point about the pavilion. It must be said that the front of the building which looks upon the Quai d'Orsay is much more attractive than any other part; that the building, too, gives an idea of the imperturbable, solid, unhysterical character of the British nature, and the practical unromantic way the Briton goes about business. There are no frills or flounces, no finesse, no claptrap; everything is severely practical, so that, all in all, one perhaps has little, if any, reason to complain.

If it is ill fortune for Great Britain that her building is sandwiched between two of the most striking pavilions in the colony, it is certainly very fortunate for Belgium that she has such a foil as the British building provides against which to show the features of her national architecture. Belgium's building is typically Flemish. Visitors assuredly do not make haste to pass it by, but pause to admire the ornate character of the work, to gaze upon the splendid clock; and to note and study the faces of the impish, grotesque, gruesome gargoyles that strain their unnatural necks down towards the multitude that passes restlessly by. I take it that this is the replica of some famous Flemish building; indeed most nations are said to have resorted to the choice of copying celebrated national buildings; but, whether or no, one can see Belgium sticking our from every niche and window and square foot of this structure. At this Exposition Belgium has taken great pains to show the world and his wife what the ambitious little Empire and its dependencies can do for him and her, and her success is unqualified.

From Belgium one passes to Norway, that little great country of timber and ice, ships and fish, and, not to forget it, cod-liver-oil. Norway has housed herself in her own yellow lumber, as a means of making known to all men the chief source of her wealth; and that another product shall not be forgotten, her workmen have carved quaint fishes, large of head and long of tail, upon the boards of the building in such a way as to form a grotesque frieze. Outside everywhere is timber and fishes, but inside the display, to be sure, is comprehensive of the many products for which the rugged land of flood and fjord is famous. Here, again, is a country, small as things go, that has made a most fitting display.

Following this Norwegian structure comes the headquarters of the resourceful German nation. As ever, Germany has done her work with all her might. Determined that her flag shall fly a peer, in altitude at least, to any other, she has erected an unusually tall building, with a still taller tower, and, although it is not possible to obtain a view of the colony which will show to one the altitude reached by the various flag poles, it would certainly seem that the German flag will float in air higher than any other. Altogether the German pavilion is one any nation might be proud of, and the visitors from enterprising Germany cannot complain of the magnitude of their country's exhibits, nor of the housing of them. Like the United States of America, Germany suffers greatly from being shut in so tightly between two neighbours, but nevertheless, visitors cannot fail to be struck with the splendid building.

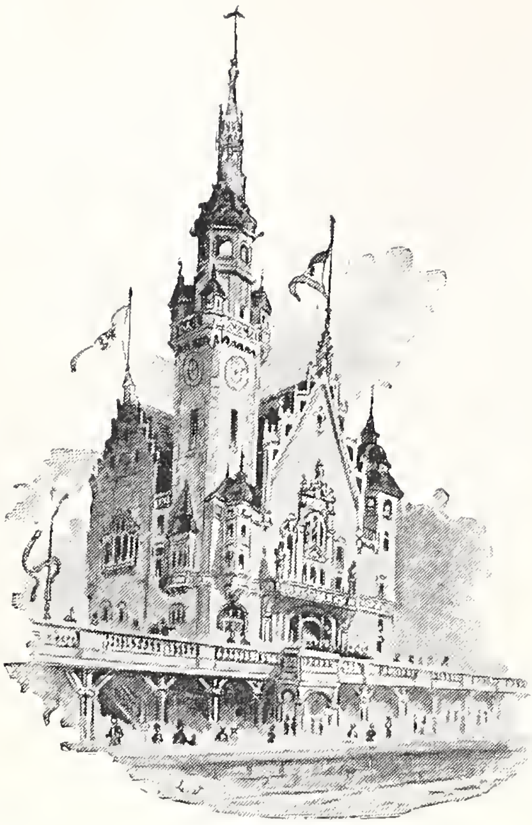
The next building will be in all probability a small surprise to the majority of Anglo-Saxons who are so fortunate as to enjoy the hospitality of Paris this year. The plot of ground has been allotted to Spain. There has been abroad in various lands just a suspicion of a belief that Spain, perhaps, was on the down grade, that she had lost almost all that dash, enterprise, and fire that once on a time justly placed her at the very head of the great nations. Well, those who see her magnificent pavilion here on the bank of the Seine will have cause to revise any opinion of that nature which they may have harboured. In every way her display



GREAT BRITAIN.

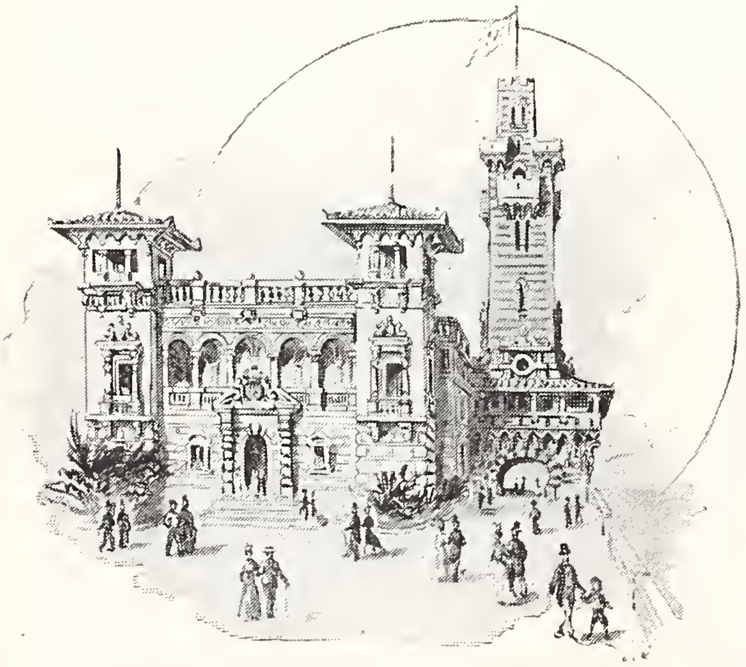
BELGIUM.

NORWAY.



GERMANY.

SPAIN



MONACO.

is splendid. Here she need fear no comparison. Her building is as good as the best; in every way it is befitting her in shape and colour; it is reminiscent of the land of sunshine and vineyards, and, in shape and colour, most pleasing to the eye. She, as everyone must admit, has many gorgeous things to display, and displays them with all the grace that her children are renowned for possessing.

Monaco, tiny historic principality of the Mediterranean coast, has pushed her way among her betters, and to show that she has charms which the world would do ill to overlook, has put together a building remarkable for possessing the most beautiful tower that is here erected. Fate, or the Management of the Exposition, has been kind to little Monaco, by giving her a plot of land roomy enough to allow her to erect a building that can be viewed with ease by all who care to examine it. Whatever regrets may have lingered in the heart after a visit to the Monaco by the Mediterranean, none at all will remain after a call to the Monaco that is by the Seine. It contains no casino.

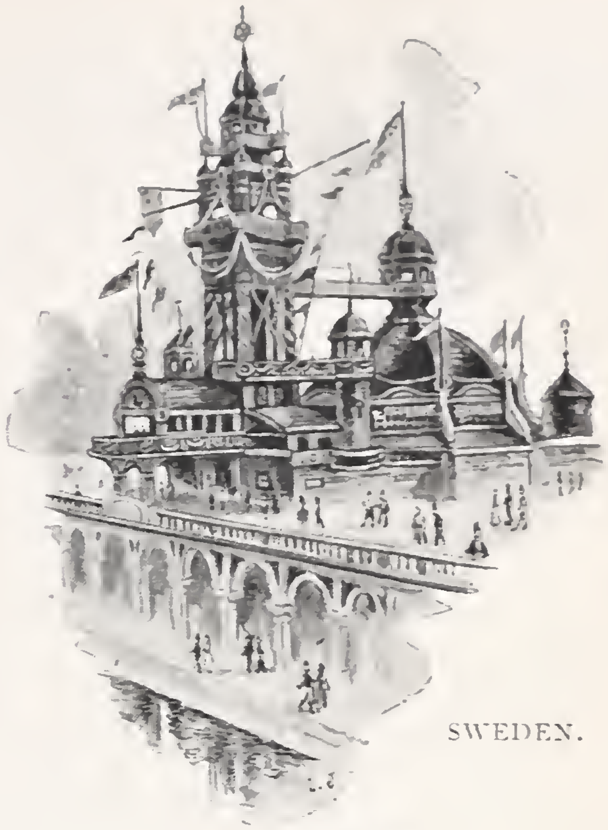
One of the cleverest of English newspaper correspondents in Paris said to me that a fat volume could easily have been written on the subject of how the carpenters of different nations go about the building of a house. He had spent some hours sauntering round the Exposition while the various erections were in their skeleton stage, and he said that, however alike they might be in their completed stage, in the skeleton stage scarcely any two buildings were alike. In the British building everything was solid, and placed accurately at right angles the one beam to the other. The

French shot off at all "cute" and acute angles. The Japanese framework was airy and delicate, one might express it as "bambooish," and so on. One can well believe that a most entertaining volume could have been compiled on the subject; a glance at Sweden's pavilion will be enough to convince anyone that such must be the case.

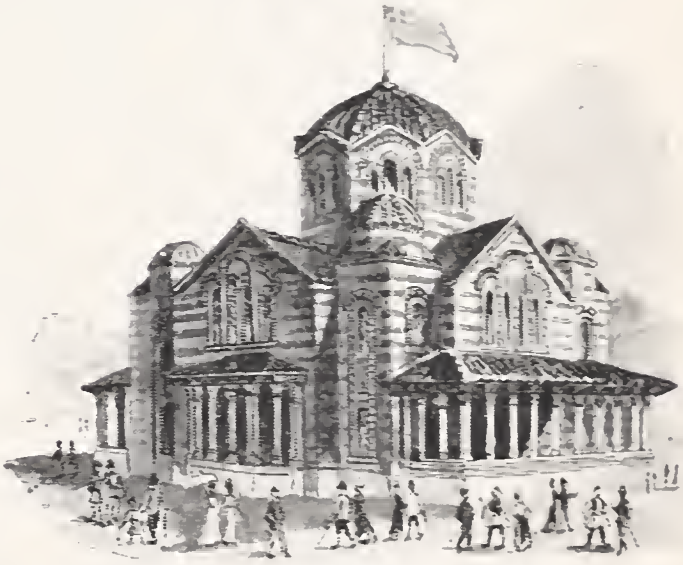
Sweden's is the "freak" building of this mammoth show. Marvellous! and to Anglo-Saxon eyes by no means entrancing in aspect. It is a house of shreds and patches, of malformations; a monstrosity in pine shingles, with plenty of shape but no form; a wickerwork-looking unstable kind of edifice from roof to foundation—a mass of yellow scales. It is a big building, and does, as it is intended, prove to all onlookers that Sweden has lumber and can build a house out of it, and that she has pine shingles in quantity sufficient to not only cover the roof but run down both sides and both ends of the house, and round the corners, and down into the cellar for all I know to the contrary. Altogether those twin nations, Norway and Sweden have buildings that for oddness, for character, cannot fail to attract universal attention. Norway's is the more beautiful, Sweden's the more peculiar.

Following this thing-in-shingles comes the neat, compact, and tiny pavilion of Greece, and, further on, the last in this row, fronting immediately on the Seine, Servia has one remarkably like, in size and shape, that of Greece. Now for the second row.

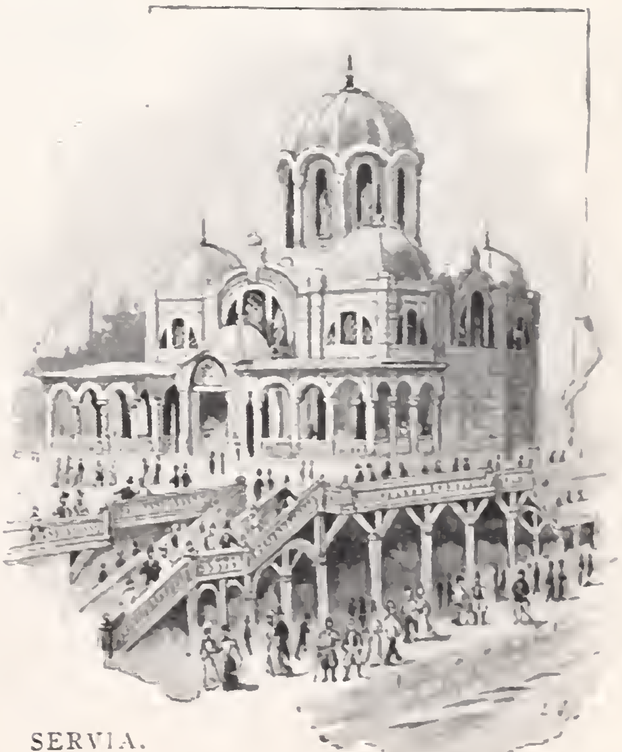
This row, although monopolised by countries of a secondary importance, contains some of the best buildings in the colony of nations. Of the great peoples, all the world knows pretty well what to expect,



SWEDEN.



GREECE.



SERVIA.

A LIGHT LUNCHEON—SANDWICH AND WHINE.

both in the way of architecture and exhibits, so that to the average man the chances are that he will find more to interest him in the pavilions of the obscure countries and dependencies that stand across the Quai d'Orsay. Beginning at the westerly end, the first pavilion entered is Roumania's. Roumania has put her best foot forward with a vengeance. Her pavilion commands attention; it is generous in size, and the colouring in cream, gold, and strange blues, so unlike the more sad house-coatings of Anglo-Saxon nations, and the beautiful wrought-iron bars that cover the windows, rivet the gaze. The national arms appear in resplendent colours on the pavilion. Roumania certainly cannot be overlooked at this great Exposition. Following Roumania—Bulgaria. She, too, has an ample, roomy "home," the chief decorations of which are the lions' heads in stucco over the supporting columns.

Passing through this the visitor finds himself in front of a very taking pavilion, that belonging to far-away industrious Finland. That little land of an eight-months' winter, of reindeer, of prodigious number of cold lakes, and of the four-months' long days, has sent her representatives down from the North to bright Paris, the city, too, of no night, and they have placed before the visitor a building that is quite the most picturesquely odd, the most comfortable looking, too, in the whole array. In design much like a church, every view of it gives the impression of warmth; one can see at a glance that it is built to repel keen cold, that where such a building is indigenous, if one may so express it, there must the Frost King hold sway, there the cold strikes death into the heart of the land. It is a building from which one expects to see bright light flood, and from the tiny windows to the eaves one looks to see the icicles hanging, and to hear the jingle of sleigh bells dancing merrily on the air. The crude tendency to circular decoration is also strange and interesting, and the squatty grotesque frogs that peer out from under the eaves, the half-circle of bears' heads round one doorway, and of squirrels round the other, are very effective. Away up on the tower-like erection notice the gawky heads of the reindeer, shoved out like gargoyles. Chilly Finland makes a remarkable exhibit here among the great nations of the earth, and one that should do Russia's dependency great good.

Luxembourg comes next with a solid pavilion, unromantic enough in style, and too Anglo-Saxon with its square stone, its granite pillars and slate roof, to appeal strongly to the heart of the Anglo-Saxon. Persia, which follows, is well housed, and the quaint colouring, the tiling in two colours of blue that streak the sides, are what one would expect of the land of the Shah. Considering the vastness of this Asiatic country, the wealth of it, and the beauty of its manufactures, Persia has scarcely had her fair share of the world's trading. True, her gorgeous carpets, her silk stuffs, bright coloured shawls, her swords—most famous of weapons—are well known in the world of commerce; but the present-day Persia is ambitious to take a more prominent position among the nations of the world, and as a visible sign of this ambition here stands a splendid pavilion for millions to visit. No one should fail to visit the "Shah-en-Shah's" country's headquarters.

The visitor next steps from the far-east to the far-west, for next to Persia stands the pavilion belonging to Peru. No South American country has such a representative exhibit as Peru. A splendid showing she makes, as becomes the land of the Incas, that land of fabulous stores of gold and precious gems, which first enticed the Spaniards into the Pacific, and in later years tempted the capable Elizabethan sailors to risk all perils and disasters, and to push out into the world, a resolve that ultimately led to Britain's greatness as a world-Empire. Peru possesses a history equalled by no other South American country, and it is well that here in the cluster of nations she has shown that all that has gone before is as nothing to what is to come after in her stage of existence. Her pavilion is a highly decorated one; there is in its architecture the solidity of the west, with a dash of savage splendour, almost Oriental, and that all who run may read she has "embossed" the names of her principal possessions in the way of provinces, etc., upon the face of the building. I believe in all there are fifty-six nations represented at this Exposition, some of them, as we have seen, with elaborate pavilions, many in a much more modest way. Peru holds her head high among them all, and were it not for her presence, the broad continent of South America would cut but a poor show in comparison with the other continents.

Portugal, too, has a good building, with a show typical of her resources, and, last in the row, that is, facing Italy's house, comes the building of the Danes, which, it also can be said, is worthy of that splendid nation. This completes the double row of the pavilions of nations, of which it can be said with truth that there is no section of the Exhibition that appeals to so large a number of people, for all the great nations, great in point of territory, strength of arms, and history are represented, so that, no matter from what quarter of the world the visitor hails, he is sure to find something to stir his patriotism and something that strikes him as homelike and friendly in this great parade of peoples.

After leaving Denmark's pavilion the visitor will do well to walk again to the west, along the Quai d'Orsay. Passing the southern end of the Pont de l'Alma, he comes upon a building decorated with peacock feathers, and the argus eyes that at once tell the initiated that here is the house of the Press in this all-encompassing Exposition. France has made generous provision for the numbers of foreign journalists who have visited, and are yet to visit, the great show of 1900. Across the way is Mexico's pavilion, standing as though it had somehow got mislaid. Mislaid or not, the Republic that lies to the south of the greater Republic, the United States, places before the world an exhibit almost startlingly rich. Passing along, one suddenly comes upon the first evidence since entering the colony of nations (if we choose to omit the beautiful Finland pavilion) of the existence of a nation called Russia. For here the visitor enters upon the section devoted to the Armées de Terre et de Mer. France herself makes a good show in this division, and the three countries that come most prominently before the visiting public are Russia, Great Britain, and Belgium, lying to the left hand as one goes westward. Russia's building is one of wood, rather striking in its architecture, a place of angle and minaret and dome.

But Great Britain's building quite puts Russia's "nose out of joint." It is a fearful and wonderful combination of fort and battle-ship, the

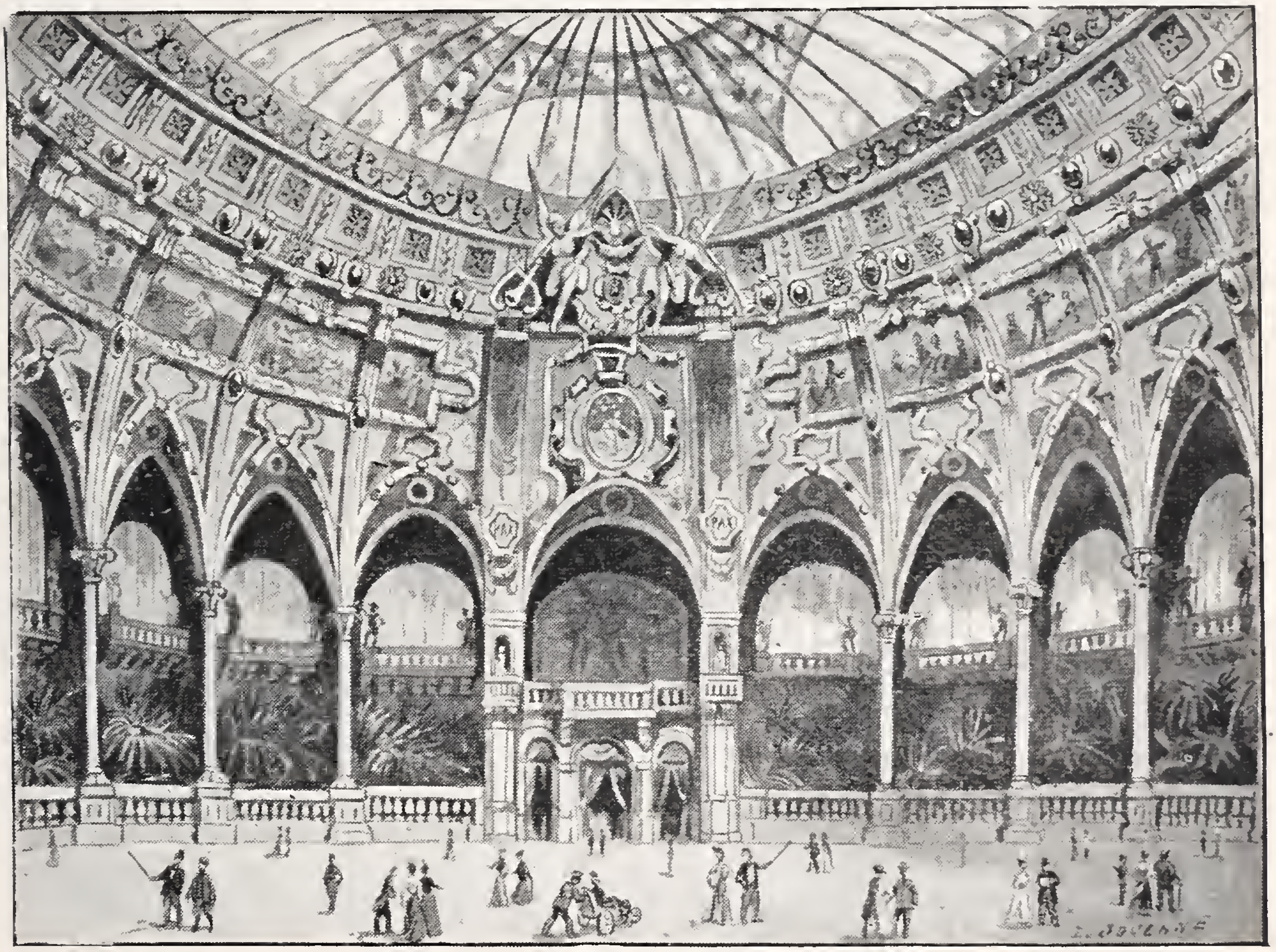
CELESTIALS.

battle-ship with masts and fighting tops resting, as it were, outside a stubborn fort. The decorations—lavish decorations they are—consist chiefly of great cables, cannon, cannon-balls, anchors. In this department Great Britain makes a showing worthy of herself. Across the way both Great Britain and Russia have a second section, and here are joined by the United States, Germany, Austria, Turkey, Italy, and other nations. The extent of this section, devoted to arms, will show the importance attached by the various nations to the art of preparing, at least, for war. Leaving this ominous exhibit, one passes into the atmosphere of peaceful commerce. The section devoted to the merchant service is a comprehensive one, and here Great Britain and the United States again show up to great advantage. The first building in this department is England's, and she further occupies a large share of the great general pavilion which stands by the brink of the Seine. Germany, France, and Russia also have bent their attentions to making this section of the Exposition a success.

Having finished with the mercantile marine, one comes into the immediate presence of the famous Eiffel Tower. This "Tour de 300 metres," which dominates the whole city of Paris, is one of those rare sights that do not lose by constant inspection, and those who saw it during the last Exhibition will be glad to find it again the central figure of the tremendous collection of marvels. The Eiffel Tower, after the last Exposition came to an end, was allowed to grow rusty-looking and dirty, so that, for more than one season, it could not be looked upon as a pleasing ornament. Now, with its face washed, and decked out in fresh coats of paint, and its points pricked out in gold, it is once again the airy, splendid, somewhat appalling structure that it was during this Exposition's predecessor. Beneath, the gardens have been laid out with exquisite taste, and the visitor will find himself in the midst of much open-air festivity.

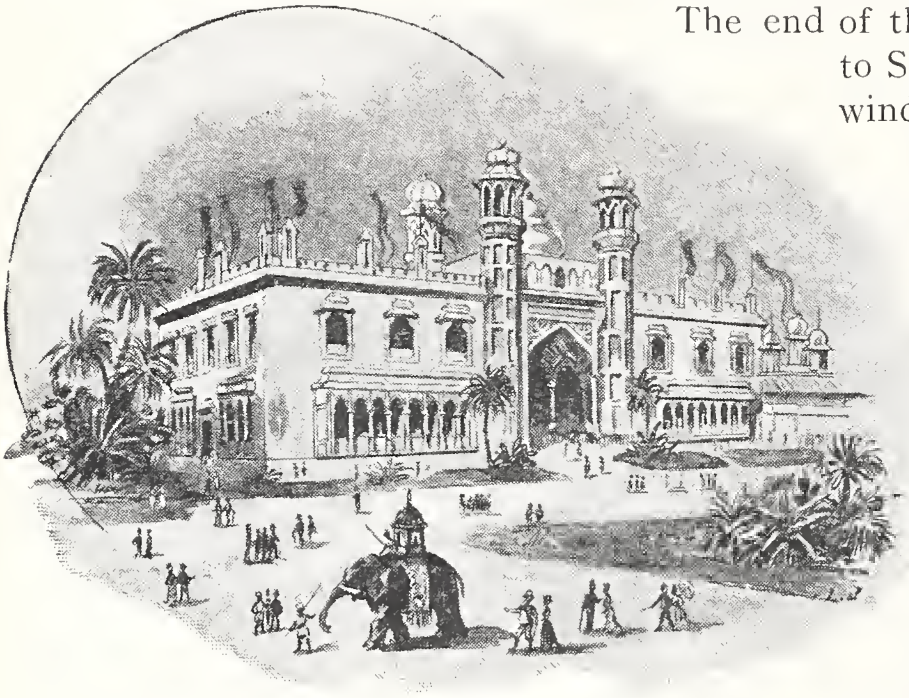
The old familiar Champ de Mars resounds with laughter, bands play, there are a myriad of cosy little tables, comfortable chairs, cooling drinks, and other refreshments; and at night a million lights burn their tiny flames in all the colours of the opal, and more. Here, perhaps more than in any other part of the Exposition, those who are weary of sightseeing and tramping through buildings, as well as those who care nothing for sightseeing, but prefer to lounge away a sweet holiday listening to laughter and music, and gazing upon brilliant sights, will find themselves in the very midst of delights. Up in the Eiffel Tower itself there is as much gaiety, and the means of enjoying onesself are as numerous as of yore. Indeed it is not at all a bad plan for the visitor, on the very first day of his visit to the Exhibition to make the ascent of the Tower, as far as the first landing at least, and from there take in the whole extent of the Exposition, and so get his directions definitely fixed in his mind.

It must not be supposed that the Champ de Mars is wholly devoted to pleasure. Far from it. The greater part of the wonderful things in the way of products of countries, and fabrics of all sorts, are to be found in the splendid buildings that surround the Champ de Mars. These buildings are more in harmony the one with the other than are those fronting the Esplanade des Invalides; one scheme of architecture ha been followed with effect, and there are no odds and ends about th whole, as is the case with its sister wing. It would be quite impossible to give in less compass than a many-paged volume a detailed account of all that can be seen in this part of the Exposition. There are here a hundred sights and attractions, each of them deserving a half-dozen pages to itself, so that all I can do here is to indicate the positions of the chief sections of the Exhibition. Quitting the south end of the Pont d'Iena one comes to a regular Hampton Court maze of attractions on the immediate left. Far in the corner stands the immense panorama of the tour of the world; a close neighbour to this is the Alpine Club. Spain is here; so, too, is Switzerland; and, close to a magic pool of water, a most marvellous palace of light. A large building is devoted to costumes.



INSIDE THE SALLE DES FETES.

Passing on one enters what may be called the Exposition proper. The first section of this, the main building, which surrounds the Champ de Mars, is devoted to Mining and Mineralogy. And here it may be as well to say that in every section will be found exhibits from the same set of countries. Great Britain, America, Germany, Russia, and a number of other nations, are met with at every turn; so one does not need to specially mention them. The great nations have, each one of them, entered into the spirit of the Exposition with a whole heart, and their best efforts are to be seen at every turn. The middle section of this eastern building is given up to woven cloths, "dry goods," in fact, and further south machinery has a department all to itself; while, showing what an important place in the minds of men, as well as in their stomachs, is occupied by food, the whole of the southern end of this great twin building of the Champ de Mars which can be given to exhibits is devoted to agriculture and foodstuffs. Facing the *Ecole Militaire* there stands a magnificent *Salle Des Fêtes*, circular in form, and ample in size, and between this and the open grounds of the Champ de Mars the building is given up to an exhibition of Electric Lighting, and all things pertaining thereto. Swinging round and facing north to inspect the second wing of the twin building, one first comes upon the second part of the exhibition of machinery, and then a grand display of chemistry. Following this Civil Engineers have a "look in," and bracketed with their requirements are the many means of transport that now facilitate the business of the world. The end of this building is given up to Science and Art. This winds up the great buildings that on three sides surround the Champ de Mars, with its uplifting Eiffel Tower.



COLONIAL GREAT BRITAIN.

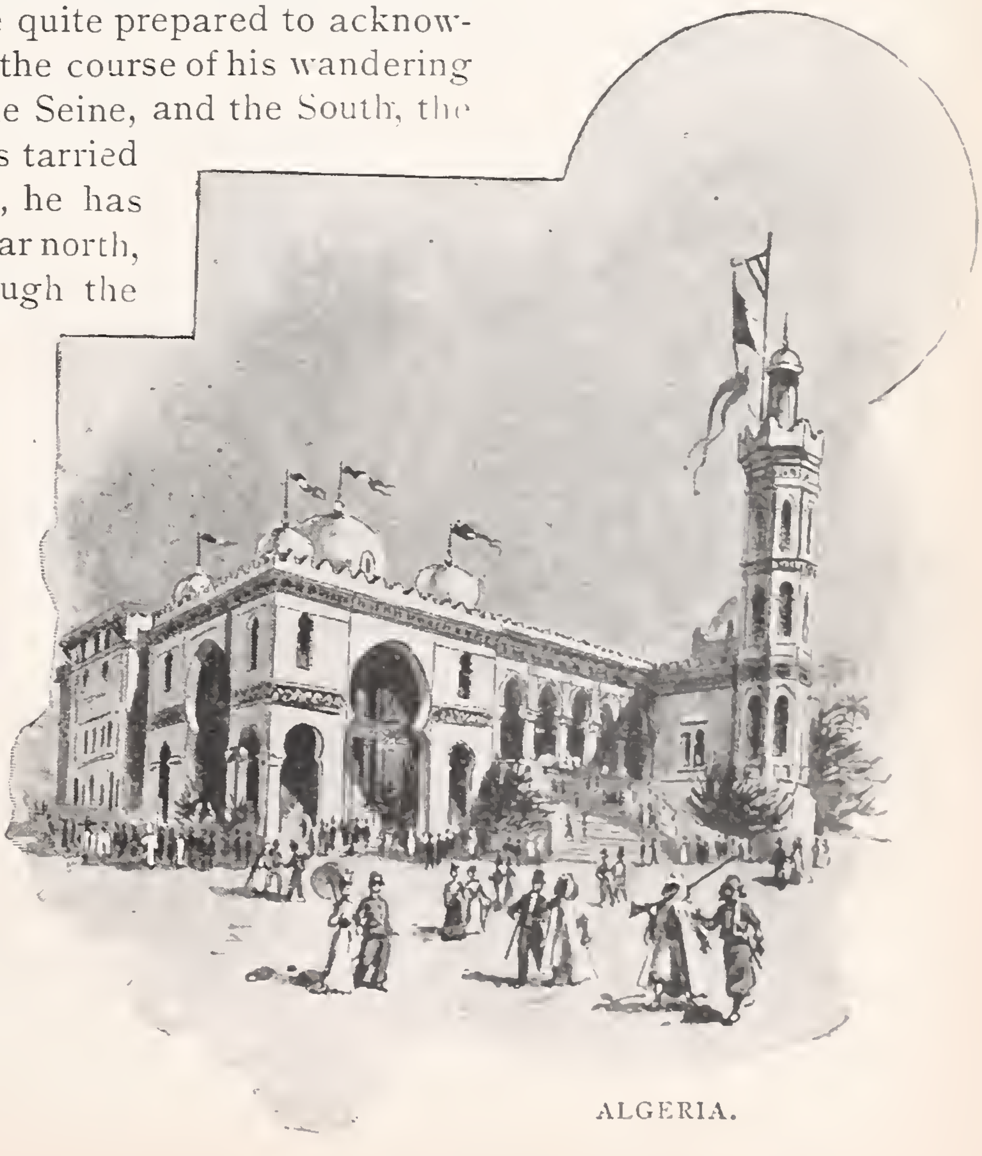
Between the end of this building and the river there is a roomy space that has fallen into the hands of the showmen. Here one can see many marvellous sights, by paying for the privilege, of course, and some of these side shows are really grand undertakings, as, for instance, the *Grand Globe Celeste*, a marvellous sphere, which stands in the far-west corner of the grounds. Then there are the Palace of Optics, a Transatlantic Panorama—you can cross the ocean luxuriously in a few minutes—a *Cineorama*, a Women's Palace, a Tyrolese Castle, a History of Ceramics, and many other places to pass a pleasant half-hour. The French know so well how to mix pleasure and profit, and all through the Exposition one steps with startling suddenness from the grave to the gay, and *vice versa*.

Between this cluster of frivolities and the swift flowing Seine the space is devoted to hunting and fishing exhibits. Then, across the bridge, the Pont d'Iena, the visitor comes to the last grand section of the Exposition of 1900, that section dominated by the *Palais du Trocadéro*. The lion share of the beautiful grounds of the Trocadero is given up to the pavilions of the colonies of various nations, and, to be sure, the British Lion's brawny cubs make a splendid showing. To the left one comes upon Colonial Great Britain, in a big building of many sections, and, further on, Egypt has a large pavillion all to herself, a building reminiscent of the land of the Pharoahs, and carved with quaint hieroglyphics. Here, too, is Japan's building. Why she did not succeed in building among the great nations, of which she must now be counted one, is a mystery. But here, among the colonies, she has erected as striking a pavilion as the whole Exposition can show —a sort of two-storey temple, bedecked in green, gold, and dark red. China, too, is here, gorgeous in red and green, and Siberia stands forth in Arctic whiteness. Russia, in the Siberian section, has adopted a good specimen of the log cabin style, and the impression left on the minds of those that look upon this exhibit is one of the vastness of the great fruitful yet rigorous land.

The colonies of Holland are richly housed here, and, as was only to be expected, France has seen to it that her rich colonies and dependencies are given a proper space. Here are the French Indies, Madagascar, Senegal, the Soudan, Tunis, Tonkin, India, China, and other places—each one of them making a good show of it. It now only remains to give a short account of what is to be seen in that section of the Exposition which skirts the river's northern bank between the Place de l'Alma and the Pont des Invalides. That portion of the ground nearest the Place de l'Alma is covered by a magnificent hall, in which the many congresses are to meet in Paris. At the other end there is a portion of Old Paris. Between these two the ground is chiefly devoted to Horticulture. So finishes our tour through the Exposition.

The French have ever been clever at hitting upon something unique and of making that a feature of an Exposition. Last time it was the Eiffel Tower. This time the public will no doubt vote the moving platform, the *Plateforme Mobile*, as *the* unique feature of the marvellous show. This platform is perpetually on the move round the Exposition, and all a person who wishes to go to the various sections reached by the moving floor has to do is to step aboard and wait until the platform arrives at his destination, when he as freely can step off again. The platform runs above head along the Quai d'Orsay to the Pont d'Iena, doubles back, and proceeds along the eastern front of the buildings that enclose the Champ de Mars and crossing to the south side of the Avenue de la Motte Picquet, comes down the western side of the buildings facing the Invalides.

The visitor who has followed this tour to the very end will, without any doubt, be quite prepared to acknowledge that he has seen in the course of his wandering upon the north bank of the Seine, and the South, the world in epitome. He has tarried under the Southern Cross, he has smelt the chill air of the far north, he has long loitered through the balmy, fruitful middlelands, gazed upon many strange faces, examined many quaint costumes and customs, tasted the relish, breathed in the atmosphere of those far-off lands that the fancy longs to visit but the purse refuses to exploit. Paris herself is never unworthy of a visit, but Paris with these scintillating additional attractions is a wonderland of delights.



ALGERIA.

GENERAL CLASSIFICATION.

IN ALPHABETICAL AND NUMERICAL ORDER.

The method of classification adopted in the present Exhibition shows a marked improvement on that in use on previous occasions. Heretofore it has been the custom to dwell rather on the origin of the exhibits than their nature and purpose, with the result that although the show was more imposing, it was less instructing, and less conducive to careful comparison. For in nine cases out of ten, the visitor has some special branch of production to which he desires to devote his attention, and by the new scheme far greater facility is afforded for his close observation and study.

The Plan reference at the end of each line will enable the Visitor to find immediately the exact location of any Class. For this purpose the enlarged Ground Plans marked I. to VIII. are divided into sections which are indicated by letters in one direction and figures in the other. The Roman figures refer to the sectional plans, and the letters and numbers following show the approximate spot on which each particular class of exhibits may be found. Thus "Aeronautics" Plan, VI., C 59 *are located on Plan VI., the finger post to the class being the point where a line drawn down from* 59 *intersects a line drawn from* C.

I.	Fine Art Buildings	*Facing page*	64
II.	Invalides Buildings	,,	68
III.	Foreign Powers & Horticultural Palaces	,,	72
IV.	Army and Navy and Old Paris	,,	76
V.	Eiffel Tower Gardens	,,	80
VI.	Champ de Mars Buildings (North) ...	,,	86
VII.	,, ,, ,, (South) ...	,,	90
VIII.	Trocadero and Colonial Buildings ...	,,	94

I. ALPHABETICAL ORDER.

	CLASS.	GROUP.	PLAN.
Aerated Waters	62	10	*VII.* D 64
Aeronautics	34	6	*VI.* C 59
Agricultural Credit	104	16	*III.* F 29
Agricultural Industries (Implements, Appliances, and Processes used in)	37	7	*VII.* A 61
Agricultural Products (non-edible)	41	7	*VII.* B 61
Agricultural Statistics	38	7	*VII.* A 63
Agricultural Unions	104	16	*III.* F 29
Agronomy (Theory of Agriculture)	38	7	*VII.* A 63
Alcohols (Commercial)	61	10	*VII.* D 62
Ammunition	51	9	*V.* F 47
Apprenticeship. Protection for Child workers ...	101	16	*III.* F 29
Architecture	10	2	*I.* F 7
Army and Navy (Administrative Departments) ...	120	18	*IV.* D 37

	CLASS.	GROUP.	PLAN.
Army and Navy (Hygienic and Sanitary Appliances)	121	18	*IV.* D 37
Army and Navy (Various Instruments)	119	18	*IV.* D 37
Art Furniture	69	12	*II.* D 16
Artillery Equipment	116	18	*IV.* D 35
Bacon Curing	58	10	*VII.* C 67
Basket work	98	15	*II.* D 16
Beverages (various)	62	10	*VII.* C 64
Bleaching, Dyeing, Printing and Finishing Textile Materials in their different stages (Appliances and Processes used in)	78	13	*VI.* E 51
Boilers		12	*VII.* D 72
Books and Book-binding	13	3	*VI.* G 59
Boots and Shoes	86	13	*VI.* D 53
Bread and Pastry	57	10	*VII.* D 61
Bronzes and Works of Art in cast iron and wrought metal. Repoussé work	97	15	*II.* D 18
Brushes	98	15	*II.* D 16
Camp Equipment	99	15	*II.* D 19
Carpets	70	12	*II.* C 14
Carriages	30	6	*VI.* D 59
Cartoons	7	2	*I.* F 7
Cartridges	51	9	*V.* F 47
Ceramics (Nat. League of Min. Painters, U.S.A.)	15	98	*II.* G 18
Charitable Relief (Public)	112	16	*VII.* D 67
Chemistry and Pharmacy (Applied)	87	14	*VII.* H 69
Child Workers (Protection for)	101	16	*III.* F 29
Civil Engineering (Materials, Plant, and Processes relating to)	28	6	*VI.* C 60
Clocks, Watches and Timepieces	96	15	*II.* D 20
Clothing (various Trades connected with)	86	13	*VI.* D 53
Coal	63	11	*VI.* H 51
Coins and Medals	15	3	*VI.* G 58
Colonial Buildings and Appliances	114	17	*VIII.* H 73
Colonies (Special Products suitable for export to the)	115	17	*VIII.* F 71
Colonisation (Methods of)	113	17	*VIII.* G 71
Condiments and Relishes	59	10	*VII.* B 61
Confectionery	59	10	*VII.* B 61
Co-operative and Provision Stores	107	16	*III.* F 29
Co-operative Associations of Production or Credit	103	16	*III.* F 29
Cordage	81	13	*VI.* E 63
Cosmography	14	3	*VI.* G 60
Cotton Thread and Fabrics	80	13	*VI.* B 51
Cutlery	93	15	*II.* C 20
Dairy Products	40	7	*VII.* B 61
Decoration (Temporary) and Upholsterer's Work	71	12	*II.* C 16
Decoration (Fixed) of Public Buildings and Dwelling Houses	66	12	*II.* C 12
Distilling	61	10	*VII.* C 62
Drawings	7	2	*I.* F 7
Dressmaking	85	13	*VI.* D 51
Dyeing	78	13	*VI.* E 51

	CLASS.	GROUP.	PLAN.
Education (Agricultural) … … …	5	1	*VI.* C 59
Education (Children) … … …	1	1	*VI.* D 58
Education (Higher) … … … …	3	1	*VI.* E 58
Education (Industrial and Commercial) … …	6	1	*VI.* D 60
Education (Musical) … … … …	4	1	*VI.* E 58
Education (Secondary) … … …	2	1	*VI.* E 58
Electricity (Mechanical Production and Utilisation of)	23	5	*VII.* F 63
Electricity (Various Applications of) … …	27	5	*VII.* E 64
Electric Lighting … … … …	25	5	*VII.* F 62
Electro-Chemistry … … … …	24	5	*VII.* F 61
Electro-Metallurgy … … … …	64	11	*VI.* H 52
Embroidery … … … …	84	13	*VI.* B 53
Engines (Various Kinds of) … … …	20	4	*VII.* G 61
Engraving … … … … …	8	2	*I.* F 7
Engraving (Medals and Precious Stones) …	9	2	*I.* F 7
Explosives … … … … …	63	11	*VI.* H 51
Fancy Articles … … … …	98	15	*II.* D 16
Farinaceous Products and their Derivatives …	56	10	*VII* G 61
Farming on a Large and Small Scale … …	104	16	*III.* F 29
Fine Art (Special Teaching of) … …	4	1	*VI.* E 85
Fishing Appliances, Tackle and Products …	53	9	*V.* G 47
Fish Culture … … … …	53	9	*V.* G 47
Flax, Hemp, etc. (Threads and Fabrics of) …	81	12	*VI.* E 53
Food Products (Appliances and Processes used in the Manufacture of) … … …	55	10	*VII.* C 63
Food Products (Animal) … … …	40	7	*VII.* A 61
Food Products (Vegetable) … … …	39	7	*VII.* A 63
Forests and Forest Industries (Products of the Cultivation of) … … …	50	9	*V.* E 46
Forestry (Appliances and Processes used in) …	49	9	*V.* F 47
Fruit and Fruit Trees … … …	45	8	*I.* A 8
Fruit (Preserved) … … … …	58	10	*VII.* B 61
Furniture … … … … …	69	12	*II.* B 18
Garden Plants … … … …	44	8	*III.* G 26
Gas Engines … … … …	20	4	*VII.* G 61
Gathering Wild Crops (Appliances and Implements used for) … … … …	54	9	*V.* F 48
Glass. Crystal … … … …	73	12	*II.* F 13
Geography (Maps and Apparatus) … …	14	3	*VI.* G 60
Goldsmiths and Silversmiths' Work … …	94	15	*II.* D 19
Guns and Sporting Rifles … … …	51	9	*V.* F 47
Hats … … … … …	86	13	*VI.* D 53
Heating and Ventilation (Apparatus and Processes)	74	12	*IV.* C 35
Horticultural and Nursery Seeds and Stocks …	48	8	*III.* G 26
Horticulture and Arboriculture (Appliances and Processes used in) … … …	43	8	*III.* G 25
Household and Art Furniture … … …	69	12	*II.* D 16
Hunting and Shooting (Products of) … …	52	9	*V.* F 47
Hunting Equipments … … …	51	9	*V.* F 47
Hydraulics … … … …	118	18	*IV.* D 35
Hydrography … … … …	119	18	*IV.* D 35

	CLASS				
Hygiene	111	10			
Indiarubber and Guttapercha Industries ...	99	15	*II*		
Inks (Writing)	92	15	*I.*	L	
Insects (Destructive) and Parasitic Plants ...	42	7	*VII*	A	
Insects (Useful) and their Products	42	7	*VII.*	A	
Institutions for the Intellectual and Moral Improvement of the Working Men	108	16	*III*	F	
Jewellery and Precious Stones	95	15	*II.*	D	
Kitchen Garden Plants	44	8	*III.*	G	2
Labour and Wages. Profit Sharing	102	16	*III*	F	29
Lace, Embroidery and Trimmings	84	13	*VI*	B	53
Large and Small Industries	103	16	*III.*	F	29
Leather Articles	98	15	*II.*	D	16
Leather and Skins	89	14	*VII.*	H	69
Lighting, other than Electric Light (Apparatus and Processes employed for)	75	12	*II.*	B	15
Linotype Machine	11	3	*VI.*	F	59
Liqueurs	61	10	*VII.*	D	62
Lithography	8	2			
Machinery (General)	21	4	*VII.*	F	61
Machine Tools	22	4	*VII.*	G	63
Map-drawing (Military)	119	18	*IV.*	D	35
Maps	14	3	*VI.*	G	60
Matches (Manufacture of)	91	14	*II.*	D	14
Mathematical Instruments	15	3	*VI.*	G	58
Medicine and Surgery	16	3	*VI.*	G	58
Mercantile Marine (Material and Plant used in the)	33	6	*V.*	F	43
Metallurgy	64	11	*VI.*	H	52
Metal Working	65	11	*VI.*	H	53
Military Engineering and Accessory Services ...	117	18	*IV.*	D	53
Models, Plans and Drawings relating to Public Works	29	6	*VI.*	B	58
Musical Instruments	17	3	*VI.*	H	59
Musical Publications	13	3	*VI.*	G	59
Naval Construction	118	18	*IV.*	D	35
Newspapers	13	3	*VI.*	G	59
Optics	15	3	*VI.*	G	58
Ordnance and Artillery Equipment	116	18	*IV.*	D	35
Packing (Engine)	19	4	*VII.*	G	62
Paintings	7	2	*I.*	F	7
Paper Hanging	68	12	*II.*	D	17
Paper (Manufacture of)	88	14	*VII.*	H	67
Perfumery	90	14	*VI.*	B	52
Photography	12	3	*VI.*	H	60
Plants (Greenhouse and Hothouse)	47	8	*III.*	F	25
Posters	13	3	*VI.*	G	59
Pottery and Porcelain	72	12	*II.*	F	13
Preserved Meat, Fish, Vegetable and Fruit ...	58	10	*VII.*	B	61
Printing (Various Processes)	11	3	*VI.*	F	59
Profit Sharing	102	16	*III.*	F	29
Protection of Workers in Factories, Regulations affecting work	105	16	*III.*	F	29

	CLASS.	GROUP.	PLAN.
Provident Institutions	109	16	*III.* F 29
Public or Private Movements for the Welfare of the People	110	16	*III.* F 29
Railway and Tramway Plant	32	6	*VI.* B 59
Rope Making (Appliances and Processes)	76	13	*VI.* E 52
Rural Cultivation (Implements and Processes used in)	35	7	*VII.* A 62
Sacks and Bags	81	13	*VI.* F 53
Saddlery and Harness	31	6	*VI.* D 59
Safes			
Sanitary Appliances (Army and Navy)	121	18	*IV.* D 37
Sanitary Engineering and Compounds	111	16	*IV.* D 34
School Furniture, Appliances, etc.	2	1	*VI.* E 58
Screws	64	11	*VI.* H 52
Ships Compositions	33	6	*V.* G 42
Soaps and Candles	90	14	*VI.* B 52
Science Schools	3	1	*VI.* E 58
Scientific Instruments	15	3	*VI.* G 58
Sculpture	9	2	*I.* D 8
Seeds (Horticultural and Nursery)	48	8	*III.* G 26
Silks and Silk Fabrics	83	13	*VI.* C 51
Silversmiths' Work	94	15	*II.* D 19
Spinning and Rope-making (Appliances and Processes)	76	13	*VI.* E 52
Spirits (Various)	61	10	*VII.* D 62
Sporting Equipments	51	9	*V.* E 47
Stained Glass	67	12	*II.* C 15
Stationery	92	15	*II.* D 18
Steam Engines	19	4	*VII.* F 62
Sugar	59	10	*VII.* B 61
Syrups	61	10	*VII.* D 62
Tailoring, Dressmaking and Clothing for Men, Women and Children	85	13	*VI.* D 51
Tapestry and other Upholstery Materials	70	12	*II.* C 14
Telegraphy. Telephony	26	5	*VII.* E 61
Textile Fabrics (Plant and Processes employed in the Manufacture of)	77	13	*VI.* E 52
Theatrical Appliances and Plant	18	3	*VI.* G 58
Tobaccos (Manufacture of)	91	14	*II.* D 14
Tools (Machine)	22	4	*VII.* G 63
Topography	14	3	*VI.* G 60
Torpedoes	118	18	*IV.* D 35
Toys	100	15	*II.* C 18
Trade Associations	103	16	*III.* F 29
Travelling and Camp Equipment	99	15	*II.* D 19
Trees, Shrubs and Ornamental Plants and Flowers	46	8	*I.* G 9
Typefounding	11	3	*VI.* G 59
Typewriting Machines	11	3	*VI.* F 60
Typography, Various Printing Processes	11	3	*VI.* F 59
Umbrellas	86	13	*VI.* D 53
Varnish, Paints, and Colors	87	14	*VII.* H 69
Vegetables (Preserved)	58	10	*VII.* B 61
Ventilation (Apparatus and Processes)	74	12	*IV.* C 35

	CLASS.	GROUP.	PLAN.
Vine Culture (Appliances and Processes used in)	36	7	*VII.* B 62
Walking Sticks, Whips, etc.	86	13	*VI.* D 53
Wall Papers and Paperhangings	68	12	*II.* D 17
Watches	96	15	*II.* D 20
Wearing Apparel (Appliances and Processes used in Sewing and in Making)	79	13	*VI.* B 51
Weighing Appliances	21	4	*VII.* F 61
Wheelwright's Work (not Railways)	30	6	*VI.* D 59
Wines and Wine Brandies	60	10	*VII.* B 63
Woollen Yarns and Fabrics	82	13	*VI.* B 53
Working Men (Institution for Improvement of)	108	16	*III.* F 29
Working of Mines and Quarries	63	11	*VI.* F 60
Workmen's Dwellings	106	16	*III.* F 29

GENERAL ITEMS.

	PLAN.
Alpine Club	*V.* C 42
Ambulance	*II.* B 20
Animated Voyages	*VIII.* A 74
Aquarium	*III.* F 26
Automobile Club	*V.* C 43
Bicycles, Storage of	*II.* H 11
Do.	*I.* C 2
Brewery	*VII.* D 73
Brittany Houses	*II.* B 17
Champ de Mars	*VII.* F 75
Chinese-India Thea.	*VIII.* E 78
Cinéorama	*V.* D 48
Coal Mines	*VIII.* F 71
Colonies	*VIII.* C 72
Comptoir d'escompte	*V.* A 47
Congress Hall	*III.* F 30
Credit Lyonnais	*V.* D 43
Customs Offices	*V.* D 49
Doctor	*II.* G 11
Egypt Palace	*VIII.* D 71
Eiffel Tower	*V.* B 45
Equator	*V.* C 47
Entrance, Main	*I.* A 1
Foreign Pavilions	*III.* C 26
French Indies	*VIII.* A 80
Gas	*V.* D 48
Maléorama	*V.* D 50
Marvellous Tower	*III.* G 29
Maternity	*V.* C 44

	PLAN.
Offices	*IV.* B 33
Old Paris	*IV.* G 34
Palace of Dancing	*III.* F 28
Palace of Fashions	*V.* B 42
Palace of Ladies	*V.* E 46
Palace of Laughter	*III.* G 22
Palace of Light	*V.* C 43
Palace of Optics	*V.* B 49
Panorama, Congo	*VIII.* H 78
Panorama, Madagascar	*VIII.* H 75
Panorama, Round the World	*V.* D 42
Panorama, Transatlantic	*V.* D 50
Police	*II.* G 11
Press	*IV.* C 32
Provençal Houses	*II.* B 18
Railway Station, Metro.	*I.* H 5
Do. Invalides	*II.* C 12
Roulotte Theatre	*III.* G 24
Salle des Fêtes	*VII.* A 75
Schneider & Co.	*IV.* C 40
Shaft	*VII.* D 61
State Manufactures	*V.* D 44
Swiss Chalet	*V.* D 43
Tableau Vivants	*III.* G 23
Touring Club	*V.* C 47
Tyrolese Castle	*V.* D 47
Ville de Paris	*III.* F 21
Yachts	*IV.* E 40
Great Telescope	*V.* B 49

II. NUMERICAL ORDER.

Group I. Education and Instruction.

Class 1. Training of Children. Primary Education. Teaching of Adults. Plan *VI.* D 58.
,, 2. Secondary Education. Plan *VI.* E 58.
,, 3 Higher Education. Science Schools. Plan *VI.* E 58.
,, 4. Special Teaching of Fine Art, including Music. Plan *VI.* E 58.
,, 5. Special Agricultural Education. Plan *VI.* C 59.
,, 6. Special Industrial and Commercial Teaching. Plan *VI.* D 60.

Group II. Works of Art (Fine Arts only).

Class 7. Paintings. Cartoons. Drawings. Plan *I.* F 7.
,, 8. Engraving and Lithography. Plan *I.* F 7.
,, 9. Sculpture and Engraving of Medals and Precious Stones. Plan *I.* F 8.
,, 10. Architecture. Plan *I.* F 6.

Group III. Appliances and General Processes relating to Literature, Science and Art.

Class 11. Typography. Various Printing Processes. Plan *VI.* F 59 and H 60.
,, 12. Photography. Plan *VI.* H 60.
,, 13. Books. Musical Publications. Book-Binding. Newspapers. Posters. Plan *VI.* G 59.
,, 14. Maps and Apparatus for Geography and Cosmography. Topography. Plan *VI.* G 60.
,, 15. Mathematical and Scientific Instruments. Coins and Medals. Plan *VI.* G 58.
,, 16. Medicine and Surgery. Plan *VI.* G 58.
,, 17. Musical Instruments. Plan *VI.* H 59.
18. Theatrical Appliances and Plant. Plan *VI.* G 58.

Group IV Mechanical Engineering.

19. Steam Engines Plan *VI.* F 62.
20. Various Kinds of Engines. Plan *VII.* G 61.
21. General Machinery. Plan *VII.* F 61.
22. Machine Tools. Plan *VII.* G 63.

Group V. Electricity.

Class 23. Mechanical Production and Utilisation of Electricity. Plan *VII.* F 63.
,, 24. Electro-Chemistry. Plan *VII.* F 61.
,, 25. Electric Lighting. Plan *VII.* F 62.
,, 26. Telegraphy and Telephony. Plan *VII.* E 61.
,, 27. Various Applications of Electricity. Plan *VII.* E 64.

Group VI. Civil Engineering. Transportation.

Class 28. Materials, Plant, and Processes relating to Civil Engineering. Plan *VI.* C 60.
,, 29. Models, Plans, and Drawings relating to Public Works. Plan *VI.* B 58.
,, 30. Carriages and Wheelwrights' Work (not Railways). Plan *VI.* D 59.
,, 31. Saddlery and Harness. Plan *VI.* D 59.
,, 32. Railway and Tramway Plant. Plan *VI.* B 59.
,, 33. Materials and Plant used in the Mercantile Marine. Plan *V.* F 43.
,, 34. Aeronautics. Plan *VI.* C 59.

Group VII. Agriculture.

Class 35. Implements and Processes used in Rural Cultivation. Plan *VII.* A 62.
,, 36. Appliances and Processes used in Vine Culture. Plan *VII.* B 62.
,, 37. Appliances and Processes used in Agricultural Industries. Plan *VII.* A 61.
,, 38. Agronomy (Theory of Agriculture). Agricultural Statistics. Plan *VII.* A 63.
,, 39. Vegetable Food Products Plan *VII.* A 63.
,, 40. Animal Food Products. Plan *VII.* A 61.
,, 41. Non-edible Agricultural Products. Plan *VII.* B 61.
,, 42. Useful Insects and their Products. Destructive Insects and Parasitic Plants. Plan *VII.* A 63.

Group VIII. Horticulture and Arboriculture.

Class 43. Appliances and Processes used in Horticulture and Arboriculture. Plan *III.* G 25.
,, 44. Kitchen Garden Plants. Plan *III.* G 26.
,, 45. Fruit and Fruit Trees. Plan *I.* A 8.
,, 46. Trees, Shrubs, Ornamental Plants and Flowers. Plan *I.* G 9.
,, 47. Greenhouse and Hothouse Plants. Plan *III.* F 25.
,, 48. Horticultural and Nursery Seeds and Stock. Plan *III.* G 26.

Group IX. Forests. Sport. Fishing. Gathering Wild Crops.

Class 49. Appliances and Processes used in Forestry. Plan *V.* F 47.
,, 50. Products of the Cultivation of Forests and of Forest Industries. Plan *V.* E 46.
,, 51. Hunting and Sporting Equipments. Plan *V.* F 47.
,, 52. Products of Hunting and Shooting. Plan *V.* F 47.
,, 53. Fishing Appliances, Tackle and Products. Fish Culture. Plan *V.* G 47.
,, 54. Appliances and Implements used for Gathering Wild Crops. Plan *V.* F 48.

Group X. Food Products.

Class 55. Appliances and Processes used in the Manufacture of Food Products. Plan *VII.* C 63.
,, 56. Farinaceous Products and their Derivatives. Plan *VII* C 61.
,, 57. Bread and Pastry. Plan *VII.* D 61.
,, 58. Preserved Meat, Fish, Vegetables and Fruit. Plan *VII.* B 61.
,, 59. Sugar and Confectionery. Condiments and Relishes. Plan *VII.* C 61.
,, 60. Wines and Wine Brandies. Plan *VII.* B 63.
,, 61. Syrups and Liqueurs. Various Spirits. Commercial Alcohols. Plan *VII.* D 62.
,, 62. Various Beverages. Plan *VII.* C 64.

Group XI. Mining. Metallurgy.

Class 63. Working of Mines and Quarries. Plan *VI.* H 51.
,, 64. Metallurgy. Plan *VI.* H 52.
,, 65. Metal Working. Plan *VI.* H 53.

Group XII. Decoration and Furniture of Public Buildings and of Dwelling Houses.

Class 66. Fixed Decoration of Public Buildings and Dwelling Houses Plan *II.* C 12.
,, 67. Stained Glass. Plan *II.* C 15.
,, 68. Wall Papers and Paper Hangings. Plan *II.* D 17.
,, 69. Household and Art Furniture. Plan *II.* D 16.
,, 70. Carpets, Tapestry, and other Upholstery Materials. Plan *II.* C 14.
,, 71. Temporary Decoration and Upholsterers' Work. Plan *II.* C 16 and D 12.
,, 72. Pottery and Porcelain. Plan *II.* F 13.
,, 73. Glass. Crystal. Plan *II.* F 13.
,, 74. Apparatus and Processes for Heating and Ventilation. Plan *IV.* C 35.
,, 75. Apparatus and Processes employed for Lighting, other than Electric Light. Plan *II.* B 15.

Group XIII. Thread. Yarns. Textile Fabrics. Clothing.

Class 76. Appliances and Processes of Spinning and Rope-making. Plan *VI.* E 52.
,, 77. Plant and Processes employed in the Manufacture of Textile Fabrics. Plan *VI.* E 52.
,, 78. Appliances and Processes used in Bleaching, Dyeing, Printing, and Finishing Textile Materials in their different stages. Plan *VI.* E 51.
,, 79. Appliances and Processes used in Sewing and in Making Wearing Apparel. Plan *VI.* B 51.
,, 80. Cotton Thread and Fabrics. Plan *VI.* B 51.
,, 81. Threads and Fabrics of Flax, Hemp, &c. Cordage. Plan *VI.* E 53.
,, 82. Woollen Yarns and Fabrics. Plan *VI.* B 53.
,, 83. Silks and Silk Fabrics. Plan *VI.* C 51.
,, 84. Lace, Embroidery, and Trimmings. Plan *VI.* B 53.
,, 85. Tailoring, Dressmaking and Clothing for Men, Women, and Children. Plan *VI.* D 51.
,, 86. Various Trades connected with Clothing. Plan *VI.* D 53.

Group XIV. Chemical Industries.

Class 87. Applied Chemistry and Pharmacy. Plan *VII.* H 69.
,, 88. Manufacture of Paper. Plan *VII.* H 67.
,, 89. Leather and Skins. Plan *VII.* H 69.
,, 90. Perfumery. Plan *VI.* B 52.
,, 91. Manufacture of Tobacco and Matches. Plan *II.* D 14.

Group XV. Various Industries.

Class 92. Stationery. Plan *II.* D 18.
,, 93. Cutlery. Plan *II.* C 20.
,, 94. Goldsmiths' and Silversmiths' Work. Plan *II.* D 19.
,, 95. Jewellery and Precious Stones. Plan *II.* D 20.
,, 96. Clocks. Watches. Timepieces. Plan *II.* D 20.
,, 97. Bronzes and Works of Art in Cast Iron and Wrought Metal. Repoussé Work. Plan *II.* D 18.
,, 98. Brushes, Leather Articles, Fancy Articles, and Basket Work. Plan *II.* D 16.
,, 99. India-rubber and Gutta-percha Industries. Travelling and Camp Equipment. Plan *II.* D 19.
,, 100. Toys. Plan *II.* C 18.

Group XVI. Social Economy. Hygiene. Public Charitable Relief.

Class 101. Apprenticeship. Protection of Child Workers. Plan *III.* F 29.
,, 102. Labour and Wages. Profit Sharing. Plan *III.* F 29.

Group XVI. Social Economy. Hygiene. Public Charitable Relief (*continued*).

Class 103 Large and Small Industries. Co-operative Associations of Production or Credit. Professional and Trade Associations. Plan *III.* F 29.
,, 104. Farming on a Large and Small Scale. Agricultural Unions. Agricultural Credit. Plan *III.* F 29.
,, 105. Protection of Workers in Factories. Regulations affecting Work. Plan *III.* F 29.
,, 106. Workman's Dwellings. Plan *III.* F 29.
,, 107. Co-operative and Provision Stores. Plan *III.* F 29.
,, 108. Institutions for the Intellectual and Moral Improvement of Working Men. Plan *III.* F 29.
,, 109. Provident Institutions. Plan *III.* F 29.
,, 110. Public or Private Movements for the Welfare of the People. Plan *III.* F 29.
,, 111. Hygiene Plan *IV.* D 34.
,, 112. Public Charitable Relief. Plan *VII.* D 67.

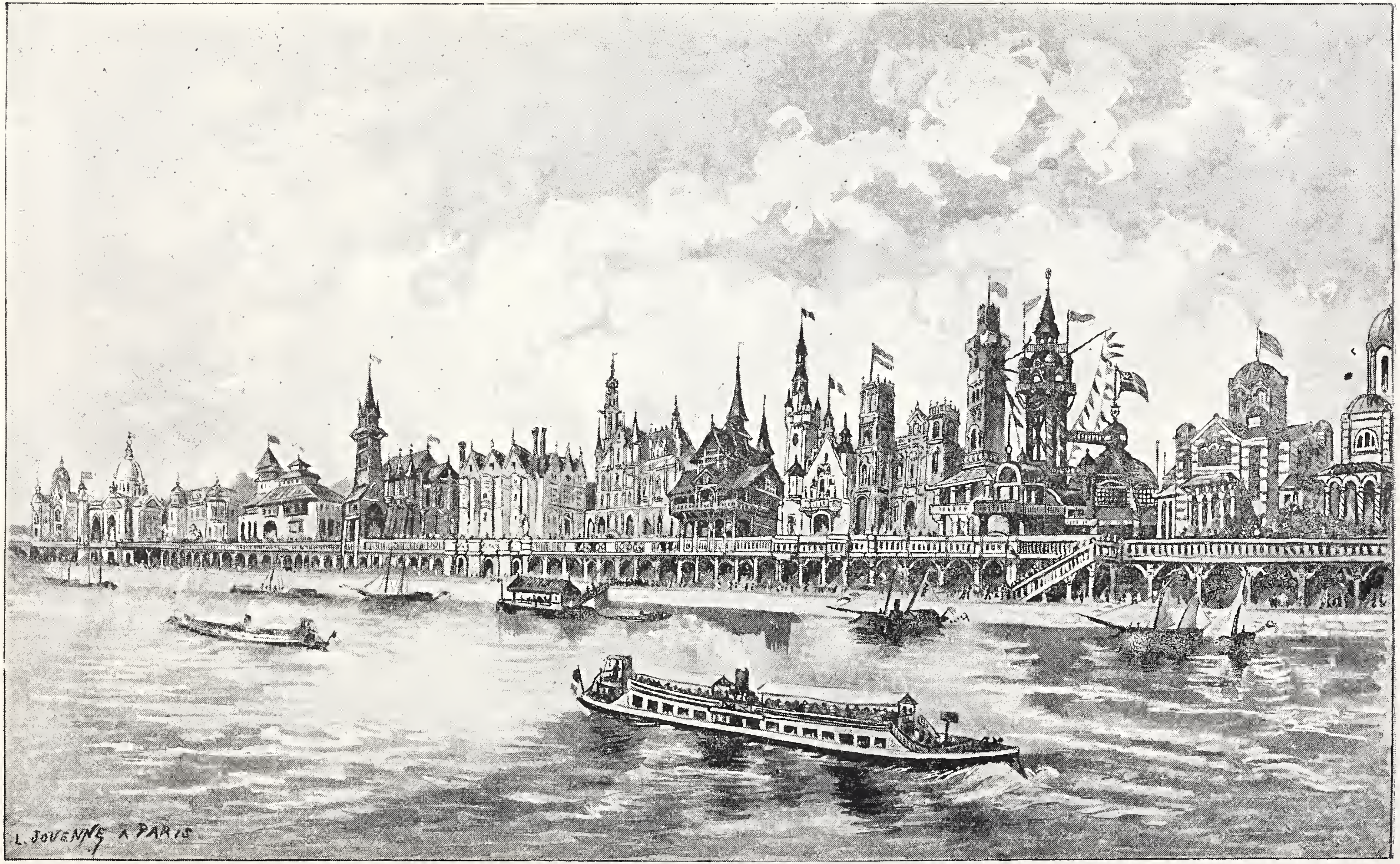
Group XVII. Colonisation.

Class 113. Methods of Colonisation. Plan *VIII.* G 71.
,, 114. Colonial Buildings and Appliances. Plan *VIII.* H 73.
,, 115. Special Products suitable for Export to Colonies. Plan *VIII.* F 71.

Group XVIII. Army and Navy.

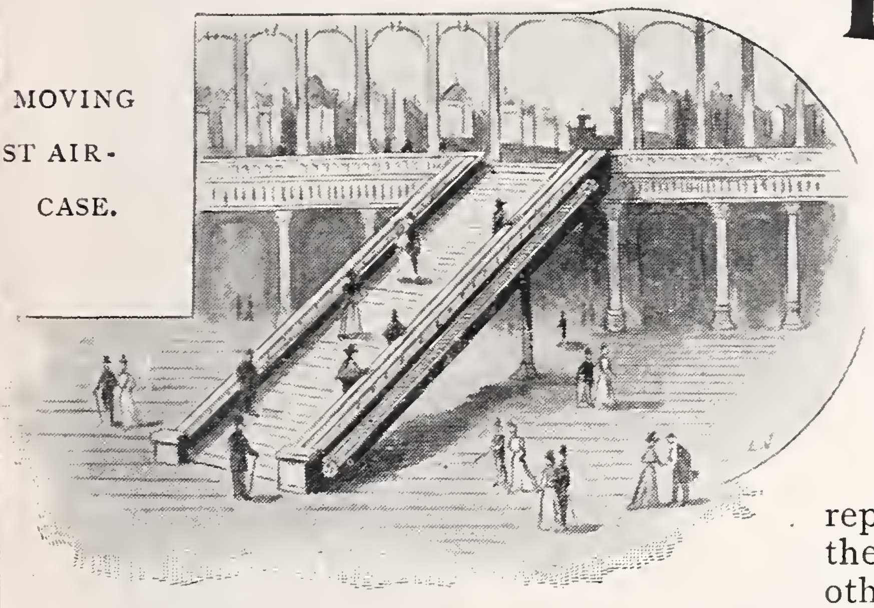
Class 116. Ordnance and Artillery Equipment. Plan *IV.* D 35.
,, 117. Military Engineering and Accessory Services. Plan *IV.* D 35.
,, 118. Naval Construction. Hydraulics. Torpedoes. Plan *IV.* D 35.
,, 119. Map Drawing. Hydrography. Various Instruments Plan *IV.* D 35.
,, 120. Administrative Departments. Plan *IV.* D 37.
,, 121. Hygienic and Sanitary Appliances. Plan *IV.* D 37.

FROM BOSTON.—"I GUESS WE'LL JUST SEE THE PICTURES BEFORE WE GO."
"GUESS AGAIN, MY DEAR."



RIVER VIEW OF FOREIGN NATIONS' PROMENADE.

BUSINESS TOUR THROUGH THE EXHIBITION.



MOVING STAIRCASE.

Beginning, then, with the main entrance, that which abuts on the Place de la Concorde, the visitor immediately comes upon the principal section of the horticultural and arboricultural exhibit of this mighty Exposition. In this department Great Britain shows to good advantage. Earl Spencer, Chairman of the Committee, has been ably assisted in gathering together a representative exhibit from the British Isles by, among others, the Duke of Fife, Sir Redvers Buller, Sir Edward Grey, and the Earl of Crewe. Here are found ornamental standard trees, grafted or not, evergreens or deciduous shrubs and ornamental trees, all sorts of park plants and a great variety of garden plants, herbaceous plants in open ground, blended beds of flowers, baskets of flowers, and even nosegays of natural flowers. These that we have just described stretch from the main entrance to the building devoted to the retrospective exhibition of fine arts, filling the whole of the space between the Avenue des Champs Elysées and the River.

When on the subject of horticulture and arboriculture, it will be as well to here take into account all the various sections of this great group. It so happens that the land devoted to the group is scattered throughout the Exhibition. Crossing, therefore, the Pont Alexandre III. we come to a second section.

On the left side of the river, as far as Pont Alexandre III. is class 45, consisting of all sorts of species and varieties of fruit and fruit trees. Here the visitor will find fruit trees growing in the open, as well as trees trained against walls, and there are some magnificent specimens of the products of cultivation on a large scale, such as orchards, orangeries, etc. There are also cider apples and pears, cherries, plums, oranges, lemons, almonds, nuts; in fact, a gorgeous display of luscious fruits. Nor has garden cultivation been neglected. Here are specimens of the products of the garden grown in the open as well as against walls, and besides, the visitor seeking for useful information will come upon quite a number of new species and varieties of these garden fruits.

On the northern bank of the Seine, and stretching practically the whole of the distance from the Pont des Invalides to the Pont de L'Alma is another large section of this interesting group. Here will be found class 43, which all must admit is one of the largest and most instructive of all the classes in the horticultural and arboricultural group. Great attention has been paid in gathering together a representative collection of implements that are in daily use by gardeners and by nursery-men. There are spades of all descriptions, pick-axes, hoes, many ingenious and clever lawn mowers, and garden rollers. There are tools for pruning and grafting, and all sorts of devices for gathering produce, and packing it in such a way that it will with the least possible damage bear the ills of transportation. Water apparatus for gardens forms of itself an entertaining exhibit, and even props for plants and overburdened fruit trees are here shown. Ornamental gardening takes up considerable space. Vases, pots, chairs and other kinds of garden seats and beautiful fountains are shown among the apparatus and objects that go to make a glorious garden. A larger class of exhibits is that of the glasshouses and their accessories; the mats that are needed where frosts are keen, and the heating devices. Here too are room and window conservatories, beautiful and compact aquariums for aquatic plants and the plans, drawings, models, books, pictures, etc., that have been issued of late to assist in garden architecture.

Class 47 is devoted to greenhouse and hothouse plants, and the visitor comes upon many delicate specimens of these from all parts of the world. Examples of the cultivation in use in different countries for utility or ornamental purposes are given, and here are shown the processes by which vegetables and fruits are forced, and the results that are obtained by this artificial method of growing. Of greenhouse and hothouse plants there is a splendid exhibit, especially of those for ornamental purposes. There is in class 48 a comprehensive collection of vegetable seeds, nursery stock of trees, many of them grafted, and some of them not. Class 44 is entirely given up to kitchen garden plants. This includes the coarser variety of vegetables that are grown in kitchen gardens as well as market gardens. Here are potatoes, cabbages, carrots, long radishes, artichokes, mushrooms and cress, all specimens of the freshest sort.

Scattered all over the marvellous Exposition will be found choice little corners devoted to plants, flowers and trees, and the visitor specially interested in these, by keeping his eye open, will not fail to come upon many delightful groups of them. Although these scattered sections are scarcely of sufficient importance to be enumerated here in detail, the Management of this group of the Exhibition has gone wholeheartedly into the matter, and no one will have cause to complain of the show, nor of the space that has been allocated to horticulture and arboriculture. Indeed, it is wonderful to observe the collection that has been gathered together from the four corners of the earth, and here made to flourish and to bloom, as though the plants were indigenous instead of being for the most part exotic. It is good to notice that H.M. Commissioner of Works has lent a hand to make this group as successful as possible, and has sent many magnificent specimens of British products to

ENTRANCE FACING HOTEL DES INVALIDES.

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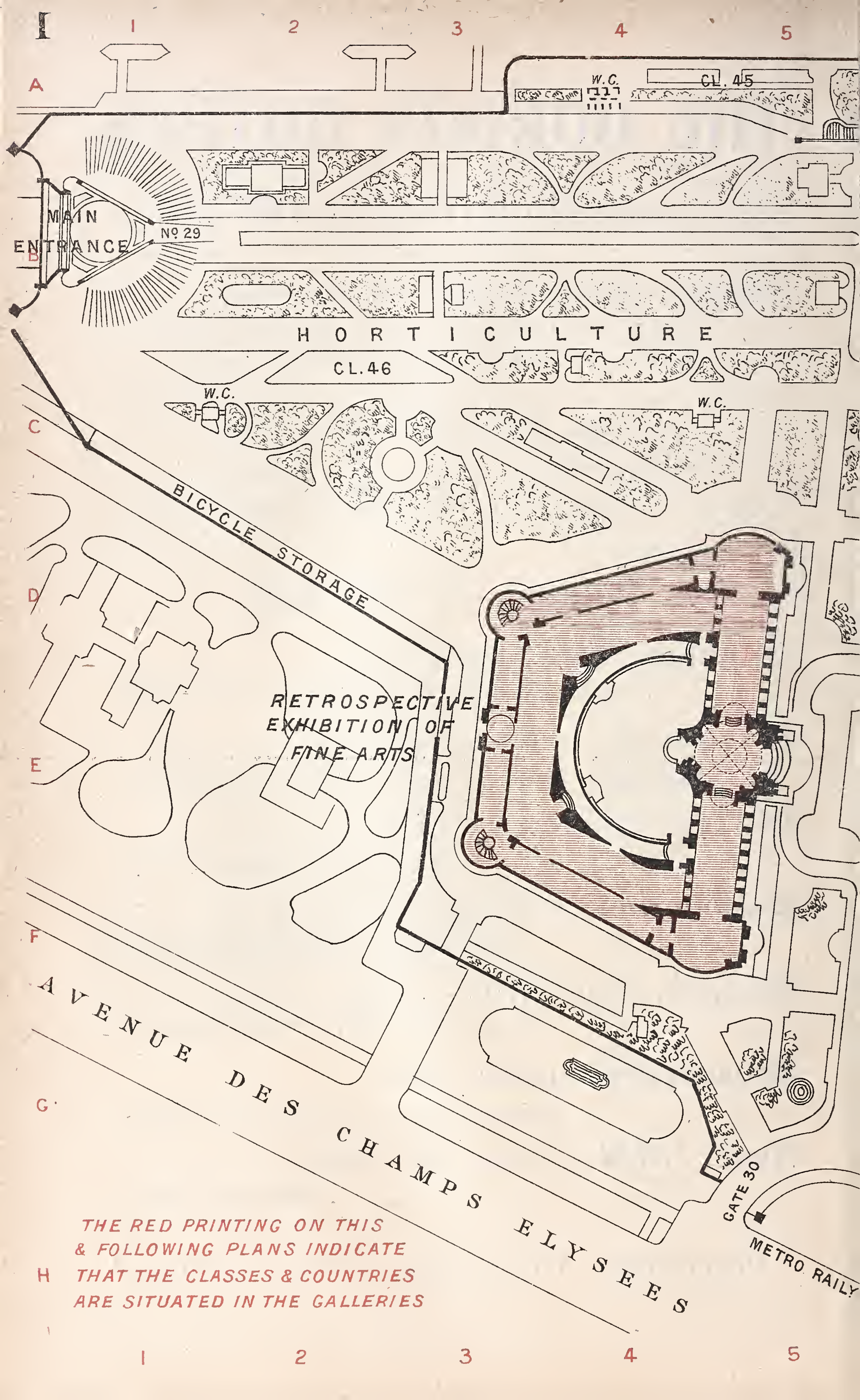

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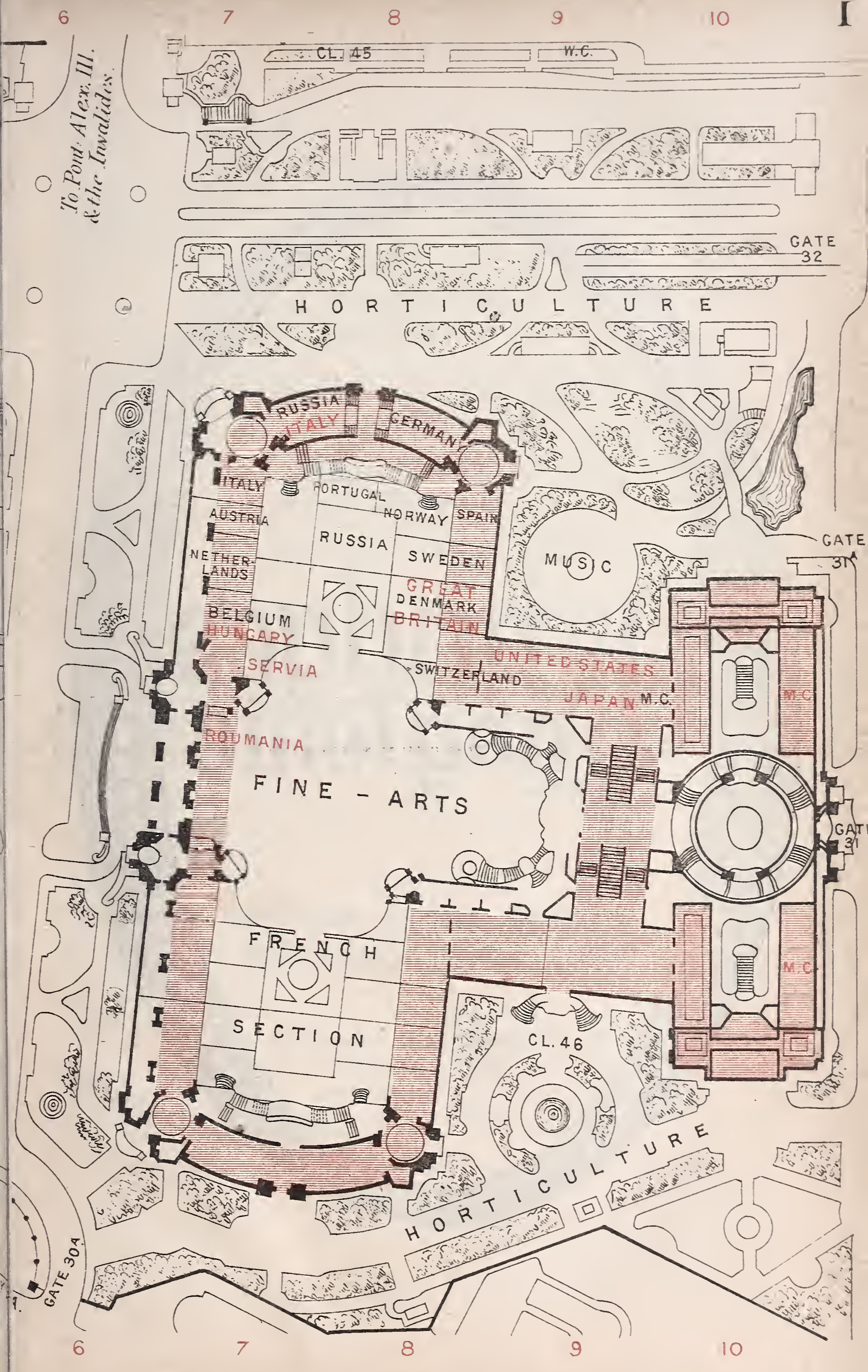
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To Pont Alex. III. & the Invalides.
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GATE 32
HORTICULTURE
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GREAT BRITAIN
DENMARK
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HUNGARY
SERVIA
SWITZERLAND
UNITED STATES
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GATE 31
ROUMANIA
FINE-ARTS
M.C.
FRENCH SECTION
CL. 46
HORTICULTURE
GATE 30A
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25 YEARS.

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A DOSE WILL RELIEVE IT.

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A DOSE AT BEDTIME WILL REMOVE IT.

WHEN YOU ASK FOR

Owbridge's Lung Tonic

BE SURE YOU GET IT.

Try it also for
Bronchitis, Asthma, Influenza, Whooping-Cough, Consumption.

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4*s.* 6*d.*, and 11*s.*

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Paris. Messrs. Sander and Co., of St. Albans, Hertfordshire, have also done their best to make the part played by England one fitted to the magnitude of the Empire.

Crossing the Pont Alexandre III., the visitor at once finds himself among the commerce of the world. The buildings that are grouped around the Esplanade des Invalides constitute a mighty exhibit of the crafts that occupy men's minds and hands in both hemispheres. The splendid building to the left France herself occupies exclusively. To begin, the first section of this building is devoted to fixed decoration of public buildings and dwelling houses. Everything is systematically arranged. France begins with the plans, designs, and models of fixed decoration. These are most comprehensive, and students will find ample material for careful study, let their stay be as long as it may. Next comes carpentry, and in order that no little particular of decoration may be missed; one here finds models of framework in great variety, roof work, timber sides and all that, and, adjoining these, ornamental joinery with specimens of doors, windows, panels of many varieties, flooring, even organ cases and church pews. The third section of this class is given up to fixed decorations in marble, stone, plaster, and that recent innovation papier maché, carton-pierre, and so forth, and quite a feature is made of decorative sculpture, in which the French people so greatly excel. Another able display is made of ironwork and locksmiths' work applied to fixed decorations. In this department are found both cast and wrought iron entrance gates and doors, so generally in use throughout France, together with bronze doors and artistic and beautifully wrought bronze balustrades. Then there is roof decoration in lead, and also in copper and zinc, while a large amount of space is given up to sky-lights, dormer windows, finials, vanes (there is a picturesque show of these), and various kinds of ridge work. Further on the visitor comes upon decorative painting in many styles and colours on stone, wood, metal, canvas, and other grounds. Here too are shown mosaic pavements, ingeniously and artistically worked in stone or marble, and enamel mosaics for walls, vaults and domes, or marble and enamel mosaics for walls, vaults and domes; while in this class, too, are shown various applications of ceramic work to fixed decoration of buildings.

To be sure, nothing plays a greater part in the decoration and furnishing of houses than carpets, tapestry, and other upholstery materials, and to these is allocated Class 70. It consists of materials, plant, processes, and products. The first sub-division is devoted to special machinery for making carpets and tapestry, high warp looms and the many other ingenious engines that go to the preparing of the raw material and the weaving of it into beautiful designs and serviceable shapes. In the next sub-section are shown the carpets themselves, moquettes, tapestry, terry or velvet pile, felt carpets, matting and all the other comfortable and decorative fabrics that cover floors and walls. There are furniture stuffs in a great variety of materials—silk, wool, cotton, linen, jute, ramie, plain, mixed, brocaded, printed, embroidered. There are fabrics in horsehair, in leather, cloth, moleskins, and many other materials. There is leather for hangings and for covering furniture, and, to be sure, oilcloths and linoleum in vast varieties. This is a most important section of this great building.

Then the visitor comes to the furniture itself. Those unaccustomed to deal in house decoration in a large way can have little idea of the multitudinous exhibits that are met with in this section of the Exposition. Only a few need be mentioned, such as sideboards, bookcases, tables, beds, toilet tables, chairs, billiard tables, and, in fact, here is everything that goes to furnish a well-found house, be it a public building or a place of family residence. Next to the above-mentioned class is that devoted to apparatus and processes employed for lighting other than electricity. Electricity of late years has gone ahead with such leaps and bounds, has become, in fact, so all-pervading in the world of artificial light, that it has to be taken care of in a section of a building by itself. But here in this decorative centre are to be seen those various methods of lighting by means of vegetable and mineral oils, petroleum, shale, thick oil, spirits, etc., and the receptacles and accoutrements for these oils, lamps, burners, wicks, lamp chimneys, and all that. There is apparatus for domestic, industrial and public lighting. The next sub-section is devoted to lighting by means of gas, and here too are lamps in great variety, burners innumerable, chimneys not to be counted, flat flame, Argand, incandescent burners, until one's head turns dizzy. Fittings cover a vast space, gas lighters and lighting torches as numerous as fallen leaves in autumn, and one sees a magnificent collection of globes in all shapes and sizes, shades in all colours, reflectors, screens, and even smoke consumers. This group devoted to decoration and furniture of public buildings and of dwelling houses takes up a good half of the great building that stands to the left of the Esplanade des Invalides.

Proceeding south, that is, in the direction of Napoleon's tomb, the visitor comes upon that part of France's magnificent show devoted to various industries. Here are bronzes and works of art in cast iron and wrought metal, together with repoussé work. French decorators have since the beginning of things made a special feature of works in bronze, and no other country can show so many delicate designs in that sort of decoration as can France. In this class are exhibited special manufacturing plant that go to the turning out of those exquisite examples of beauty in bronze. There, too, are patterns and moulds used in foundries, tools for chasing and repoussé work, processes for mechanical reduction, and all that—while another section of this class is devoted to bronzes and works in cast iron and wrought iron other than those specified in class 65 of the mining and metallurgy group. Here, too, is the art zinc work, and still another section is filled with specimens of repoussé, stamped, damascened metals.

Adjoining the bronze work is a department occupied by the handicraft of goldsmiths and silversmiths. In section 1 of this can be seen special appliances for goldsmiths' and silversmiths' work, the large variety of delicate tools that these artists in rich metals use; also appliances for casting metals, and the machinery for shaping delicate fabrics, for electro-plating, and generally the methods of working are well and clearly shown.

Church plate and ordinary plate have a section to themselves, and splendid examples in gold and silver, as well as baser metals, such as bronze are placed temptingly before the spectator. Plated goods too have not been overlooked, and the art of gilding and silvering articles is also thoroughly taught. Last, but among the most important as well as pleasing of this particular show, are the enamels used for painting on metals. Then we come to cutlery. The plant used from the start to finish in the manufacture of cutlery is spread out before the visitor, and special attention is given to the grinding and polishing appliances. There is a comprehensive exhibit of pocket and penknives and knives with fixed blades—in fact, all sorts of table cutlery, as well as cutlery used in gardening, in vine culture, and in a score of other trades. Scissors and work-box cutlery have a department to themselves. Razors are shown of all kinds, and to end up with there are many examples of plated goods for use upon the table.

Following cutlery come clocks. The examples of clocks, watches and timepieces shown here are truly extraordinary. Every pattern that the quick wits of the French clockmaker could hit upon ticks away in this building. Not only the timepieces themselves are shown, but also the plant needed for the manufacture of them, the processes through which they pass, and the materials of which there many different parts are made. Section 1 of this vast exhibit consists of special plant for the manufacture of clocks, watches and timepieces, the hand tools that are used, the machinery, steam driving or otherwise needed, the lathes and other machine tools, and also the multitudinous measuring instruments required in this business, in which it is imperative that everything should be precise and exact. After showing the tools, this Exhibition places before the spectator the preparations through which the various metals employed by watch and clock makers pass. Each separate part of clock and watch is here fully shown, the springs playing a great part in the illustration. Then there are watch cases ingeniously constructed of precious metals, and cases that are of common metals; here too are the rubies and other stones that are so extensively used in the jewelling ot holes, and beautiful examples of dials in enamel and other materials can be seen in their dozens. Further on are the clocks for churches and public buildings. These, of course, occupy a great amount of space, and there are astronomical clocks, marine chronometers, electric, pneumatic and hydraulic clocks, regulators, alarums; and, although they are not quite in the clock line, still being of the shape of watches, there is also an exhibition of pedometers, metronomes, and a great variety of registering instruments. Even the old-fashioned but accurate hour-glass is on view, and all the complications needful for the successful working of clockwork chimes are fully illustrated. Besides being a valuable educational section this is one of the most beautiful in all the Exhibition.

Stepping from the region of clockmaker, who uses, as has been seen, rubies and other stones of value, the visitor finds himself in the jewellery and precious stones department. The exhibition embraces appliances, processes and products, and therefore is comprehensive as it is well possible to be made without bringing in actual diamond mines from Africa or India and planting down in Paris. Following the order that is generally retained in the Exposition, the first section of this class is devoted to special manufacturing appliances and the methods of working them. Here is a busy show. The delicate operations and the gradual metamorphosis of the rough, unromantic, dull-faced, uninteresting-looking, mud-stained stone into the glittering gem, as it appears in ring or other ornament, are all laid bare to the eyes of the interested. Few things are more entertaining than to watch the handling of these gems, and nowhere can this be seen to better advantage than in the French section of this Exhibition. There is a splendid display of stones themselves, cut, uncut, and in various stages between those two states. Diamond cutting, cutting and engraving other precious stones, and engraving hard cameos and shells, all can be seen. The commercial side of the jewellery business has not been forgotten, and here are to be seen ornaments in debased gold, which is labelled for export purposes, and jewellery in silver, platinum, aluminium. It is needless to mention that much of the jewellery is set with precious stones. Imitation work is also given plenty of space. Imitation lapidary work, imitation pearls, imitation precious stones, imitation everythng in that line that is worth imitating. There is gilt jewellery, imitation jewellery in copper and other metals, steel jewellery, mourning jewellery in jet and in glass, jewellery in coral, amber, mother-of-pearl, and many other precious and non-precious material. France, renowned for jewellery, genuine and ungenuine, has taken care to place herself well before the eyes of the world.

As has been said, the whole of this left hand building, that which backs on the Rue de Constantine, is taken up with French products. The right hand building across the Esplanade des Invalides is given over to foreign countries, and to be sure these show a like number of arts and crafts to France herself. Beginning with the end nearest to the Hotel des Invalides, the visitor first finds himself in Belgium. All through this Exhibition Belgium has made a most creditable show, and has entered with whole heart into the spirit which animates the Exposition of 1900. Next to Belgium stands Russia ably represented, then Germany, than which there is no country more enterprising in the various lines of industry which we have just been viewing. After Germany comes the United States, now pushing out into the world as a first class power, not only politically but industrially as well. Next to the United States are Great Britain's exhibits. To take care of Britain's exhibition of decoration and furniture of public buildings and dwelling houses, a very strong committee was formed, having as its Chairman, Sir Frederick Abel, Bart., K.C.B., and on the Committee were the Earl of Mayo, Right Hon. William L. Jackson, M.P., Sir John T. Brunner, Bart., M.P., Sir Henry Stafford Northcote, Bart., C.B., M.P., Sir Courtney E. Boyle, K.C.B., Major-General Sir Owen Tudor Burne, G.C.I.E., and other influential gentlemen, and this committee carrying with it the confidence of the country has gathered about it a representative number of British manufactures. To mention but two or three, Gillow and Co., Collinson and Lock, Heal and Son, Howard and Son, Waring and Son, Maple and Co., and even these few names will convince any one that whichever nation is to be last in this great Exposition that nation will not be Great Britain. The United Kingdom occupies the very centre of the group of nations. She has had ample room placed at her disposal, and she has filled that room to the very best advantage. Passing on the visitor comes to Italy, and next to Italy Denmark, the Danes as ever showing their enterprise and skill. Then comes Hungary, followed by Austria, and next Japan with as good a show of materials as is to be met with in all the Exhibition. Lastly, there is Switzerland, the little Republic making as much of its woodwork and carving as it is possible to make.

Of the Pavilions of Foreign Powers that have been raised on the south side of the River Seine nothing need here be said, as the matter is gone fully into on another page under the heading of a "Trip through the Exposition," but across the river and facing these pavilions is a very interesting and instructive part of the world's show, that devoted to social economy, hygiene and public charitable relief. To begin with, the exhibit in this section commences with a view of all the lands, matters pertaining to apprenticeship and the protection of child workers occupying the first space. In regard to apprenticeship in the workshop, here are shown the various systems of working, indentures that are drawn up between master and apprentice, and relations that exist between the employers and employees. The many systems of apprenticeship are illustrated, and as far as possible the results of these systems are given. As well as these there is expounded to the spectator the free technical instruction that is given to children in schools, established either by employers or by workmen who have an interest in the proper upbringing of the rising generation of workers. A section is devoted to training in industrial or agricultural orphanages, in workrooms, in training schools for domestic servants and similar establishments. Then there is a complete list of legislation affecting the work of children and the protection of child workers. As this matter of juvenile employment is one that periodically agitates every civilised country in the world, this section of the Exhibition will, without doubt, receive great attention from reformers in general, and those interested in the condition of child labour in particular.

Following the children come the artizans and agricultural labourers, the method of settling a scale of wage is shown in the matter of day task or piece work or contract work. Bonuses and overtime payment in all kinds, and all that is gone into, and the system of working in various lands affords a wide scope for the getters-up of this section. In this social

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1878-1889.

Pavillion TIFFANY, United States Section, Invalides Buildings.

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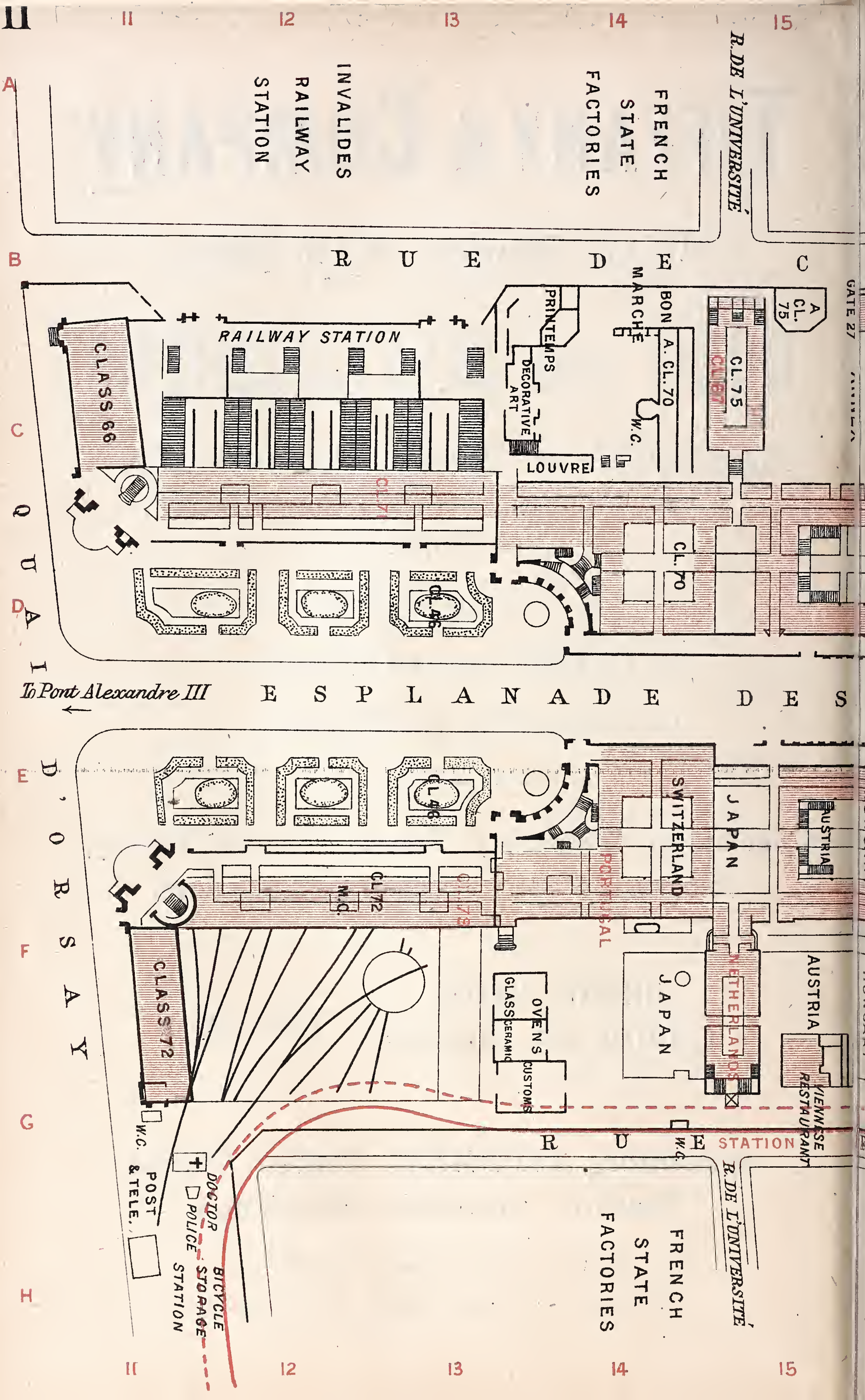
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R. DE L'UNIVERSITÉ
RUE DE C
GATE 27
CL. 71
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CL. 75
CL. 87
BON MARCHÉ
A. CL. 70
W.C.
PRINTEMPS
DECORATIVE ART
LOUVRE
RAILWAY STATION
CLASS 66
CL. 71
CL. 70
CL. 46
QUAI D'ORSAY
To Pont Alexandre III
ESPLANADE DES
CL. 48
SWITZERLAND
JAPAN
AUSTRIA
HUNGARY
PORTUGAL
CL. 72
W.C.
CL. 73
CLASS 72
OVENS
GLASS
CERAMIC
CUSTOMS
JAPAN
NETHERLANDS
AUSTRIA
HUNGARY
VIENNESE RESTAURANT
RUE
W.C.
STATION
W.C.
POST & TELE.
DOCTOR
POLICE STATION
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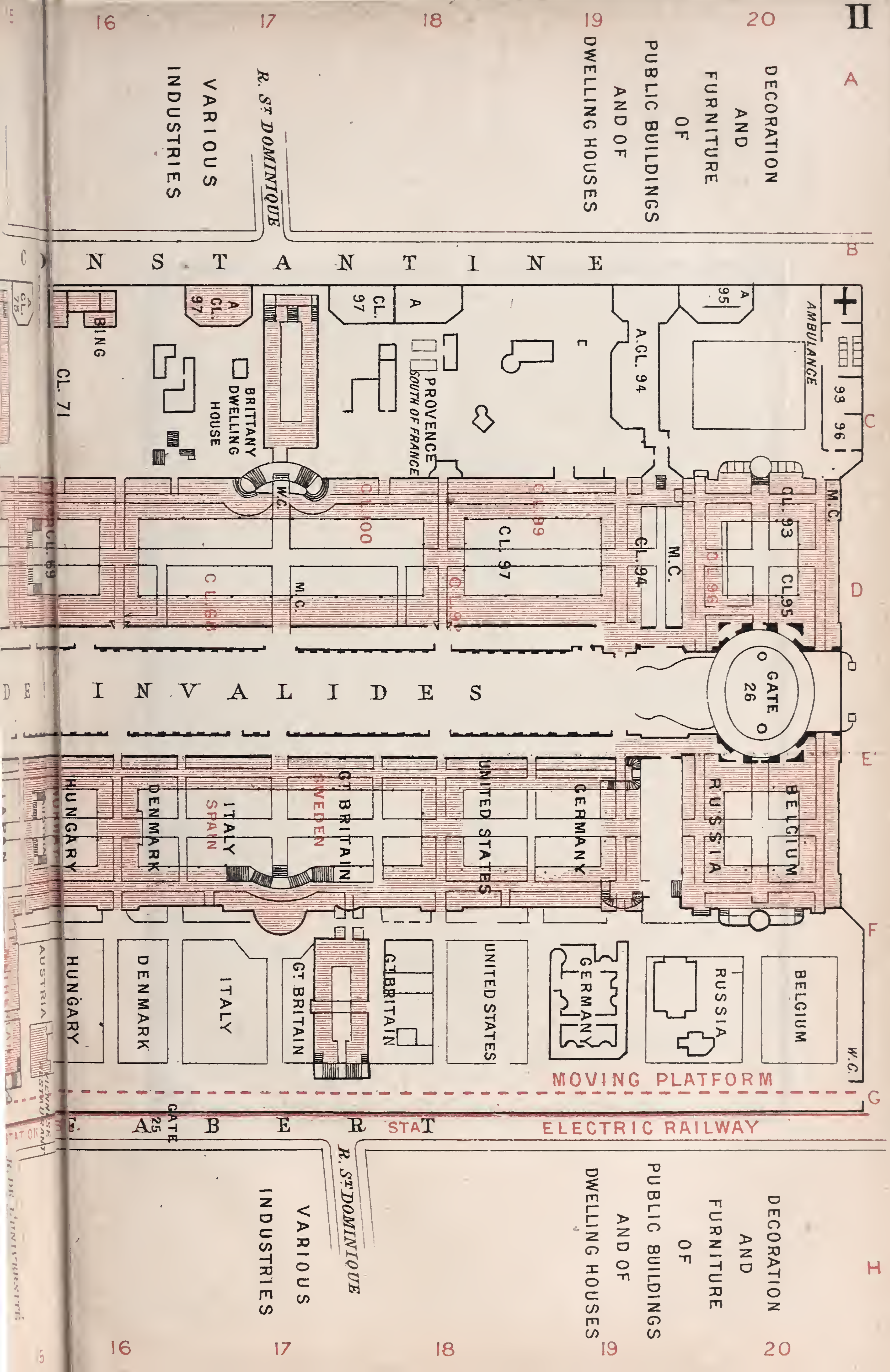
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DECORATION AND FURNITURE OF PUBLIC BUILDINGS AND OF DWELLING HOUSES
VARIOUS INDUSTRIES
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BRITTANY DWELLING HOUSE
PROVENCE
SOUTH OF FRANCE
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GATE 26
I N V A L I D E S
BELGIUM
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GERMANY
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AUSTRIA
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ELECTRIC RAILWAY
E. A B E R T
STAT
GATE 25
R. ST DOMINIQUE
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economy group Great Britain has been fortunate in the choice of her Committee, the same Committee, by the way, that has arranged their exhibits of appliances and general processes relating to literature, science and art, and to education and instruction. The Chairman of the Committee is the Duke of Devonshire, and serving upon it are Lord Lister, Lord Reay, Lord George F. Hamilton, Lord Avebury, Right Hon. Sir John Eldon Gorst, M.P., Right Hon. H. H. Asquith, M.P., Right Hon. James Bryce, M.P., Right Hon. Horace C. Plunkett, M.P., Sir Clements R. Markham, K.C.B., Sydney C. Buxton, Esq., M.P. Continuing the labour and wage and profit sharing exhibit there is shown the encouragements to work and to remain long in the same employment, the system of payment of wages, of regulating disputes relating to scales of wages, and the relation between wages and the cost of living. A subsection is devoted to profit sharing. Many and various methods of sharing profits are shown, as is also the proportion and principle of allotment of shares of profits to employees and workmen, and the powers of the employer in regard to the management of his business and the appointment or dismissal of a staff, the auditing of accounts, and the methods of applying the share of profits, and their results. Tenant farming, too, has a space to itself.

The next section of this group is given up to large and small industries, Co-operative Associations of production, or credit and professional, or trade Associations Here is a vast accumulation of documents well displayed, giving statistics relating to industries carried on in large establishments as well as small factories and even domestic industries. Their comparative facts are displayed, as is also the result of slack and out of work periods.

The mode of living and expenses of working-men's families in many countries are, too, shown. It is, of course, to be understood that the exhibits in this group are practically all on paper. Here are given in figures and letter-press how best to form a working men's co-operative association of production,how the capital should be raised, the proper constitution of the managing body, the sharing of profits, the remuneration generally given to outside societies, and the advantage of such associations that accrue to State, country or parish. Co-operative credit associations are also dealt with, starting with the object and constitution; the formation of capital, the number and status of members, and extent of their liabilities; how best the management should be conducted, how the money should be handled, the accounts kept and rendered; how the profits should be shared, the relations that should be entered into with other credit associations, and all facts relating to state grants and banks. After these come professional and trade associations, the federation of employers, workmen, and of employers and workmen, legislation relating to all these matters, the organisation and functions of these bodies, the relations between workmen and federations or employers' federations and non-society men. Following this, of course, come large statistics with regard to strikes, their causes and effects, and the question of compulsory or optional arbitration is thoroughly thrashed out.

The next class in this social and economy question is that of farming on a small scale, agricultural unions, agricultural credit. The question of the food supply of the world is one that is always uppermost in the minds of the nations, and it is only right that in this the greatest Exhibition the world has ever known agriculture should form a prominent section. This Exhibition begins with a division of property and working of lands. Land transfer is thoroughly digested, and the laws affecting distribution, arrangement, or transfer of land are all accurately set forth in a way that even the ignorant might understand. The special customs and precedents relating to land and its employments, the conditions of the hands employed in farming on a large scale, or on a medium scale, or on a small scale are shown. The condition of the tenant farmer is gone into, as well as the conditions of the agricultural labourer, and the mode of living and expenses of the working men's families are here given with a thoroughness that is characteristic of every section. A movement that has attracted weighty attention is that of the rural populations to cities. This question affects the Anglo-Saxon, perhaps more than any other race, and the Management of the Exhibition have not overlooked its importance. It is dealt with in this part of the social economy group, as is also the question which has long troubled European countries, that of their people emigrating abroad. Agricultural Unions fill the next department, and in it are shown the services rendered by those bodies in facilitating the purchase of agricultural implements, manures, seed, and live stock, and in the propagation of scientific cultivation, and also in the sale of farm produce and all that. Then agricultural credit is taken note of, the mortgages that in so many instances hang like a mill stone round the neck of the farmer. The loans on security, the advances on harvest produce in bond, and those on personal security; agricultural banks, mutual loan associations, all are carefully gone into.

Following this comes a most important display. It is that in regard to the protection of workers in factories, and the regulations affecting their work. To begin with, there is a comprehensive list of accidents and the statistics relating thereto.

Legislation affecting hours of work, factory laws and sanitary regulations, regulations for the safety of workers, effects of these laws and regulations on the health and security of workers, on their earnings, the condition of their families, and the cost of production of manufactured goods. These heads of themselves will give an idea of the importance of this part of the Exhibition.

In Class 106 the visitor is confronted with all things pertaining to workmen's dwellings. In this section may be seen plans and specimens of cheap and healthy dwellings, of single houses built by employers, or by working men themselves, or by building societies, or philanthropic bodies. The matter of the rent for these houses is thoroughly sifted, as is also the purchase of house property by payment of fixed instalments in the form of rent, and the advances to working men who build their own houses. There are plans for workmen's flats, for lodgings, or unmarried artizans, and statistics in regard to State aid, parish aid, savings bank assistance, and every means of encouraging thrift.

The next class (107) in this group is given up to co-operative and provision stores. The heads under which this section are arranged are as follows:—Co-operative Stores and Companies for the sale of commodities —especially provisions, bread, meat, supplies for restaurants, soup kitchens, etc. The original object and constitution of these Companies, raising of capital, number and status of the shareholders, management, purchase deparmtent, manufacturing department, exclusive sale to shareholders, or to the general public. Sale at cost, wholesale, retail, or other prices. Conditons of payment, shop management, accounts, share of profits, catering for staff organised by employers, taxation of co-operative stores and provision caterers, special catering associations formed by railway servants, or for their own benefit. Competition with local tradesmen and its effects."

The next class is allocated to institutions for the intellectual and moral improvement of working men. This begins with all particulars regarding polytechnics and their education, institutions founded by employers, or by their workmen. The lectures that are given therein, the mutual improvement societies, libraries, museums, and collections which they should contain. Another part of this class takes into consideration workmen's clubs, their staffs, administration, financial conditions, the games that are played therein, and refreshments that are served through the members, also the rules of admission to the public, and of the member's family. The class now widens out, and takes note of musical societies, shooting and athletic clubs, whether formed by employers or by the working men themselves, and the people's palaces that have sprung up, and are still springing up in the various quarters of the world, also other institutions of entertainment and education.

Next in order comes the section devoted to provident institutions. The first section in this section is given up to thrift, and here the workings of the International Post Office and Savings Bank are shown. As becomes a nation that was the leader in the matter of Post Office Savings Banks Great Britain has on the walls a most striking exhibition of the vastness of her wealth and the amount of money which the common people have been able to save, and been tempted by the sound security which is given them to deposit as the results of their thrift with the Post Office Savings Bank. A prominent space on the wall, measuring something like 7ft. x 9ft., has been covered by a striking pictorial manifestation of the development of the British Post Office Savings Bank. Down the centre of this are three diagrams, so that "he who runs may read," and in English and French are given the results of the workings of the Post Office Savings Bank.

The British Post Office Savings Bank was instituted in 1861, and since that date it has been copied by almost every civilised country in the world. Belgium followed in 1870, Austria in 1883, Hungary 1886, Italy 1876, and France, although she does not use exactly the same system as Great Britain established, was as late as 1882.

On the illuminated card that has been got up by the Post Office it is shown that the number of deposits in Great Britain and Ireland are eight millions—that is 1 in every 5 of the population—and that the deposits amount to £130,000,000, the average amount standing to each depositor's credit being £16 5s. od.

The number of Post Office Savings Banks in the United Kingdom is 13,000, and the number of penny banks connected with the Post Office Savings Bank is 5,000; the number of shillings deposited since 1880 by the penny stamp deposit system amount to 28,500,000. This beautifully illuminated card ought to be seen by all visitors to the Exhibition.

This Provident Institution Section is so large that again only the headings of it can be given. Thrift, national, post office, and school savings banks, etc., savings banks under State supervision, trust societies and systems adopted to encourage thrift, arrangements for the deposit or investment of individual or collective savings of workmen and employees; provision for the families of workmen during employment.

Benefit and mutual aid societies; legislation, advantages accruing to societies according to their legal status; formation, organisation, and management; relations with other bodies; medical assistance and medicine in case of illness; assistance whilst out of employment; assistance in old age, pensions, insurance; assistance in case of death; admission of women, assistance to women during child-birth; receipts and expenses. Statistical tables of disease.

Pension funds: State and municipal pension funds, etc.; pension funds formed by employers, or by workmen or employees. Compulsory or optional subscriptions by masters and by workmen or employees; deduction from wages for this purpose. Conditions affecting the enjoyment and share of pensions. Reversion to widows and children.

Life Insurance: payment by the State, by societies, or by insurance companies at death or at a fixed date; deferred and mixed payments. Payment of premiums by employers, workmen, or societies formed for this purpose. Tables of mortality and death statistics.

Various provident institutions. Assistance rendered by employers in case of illness or during periods of non-employment.

The last section in this social economy group is that of public or private movements for the welfare of the people. It comprises:—Ethical Law (in the nature of compulsory insurance and provision of old age pensions; weekly day of rest, etc.). Laws and regulations drawn up by public bodies, or by institutions founded or supported by them for the purpose of completing, controlling, or superseding work commenced by private enterprise; intervention of these bodies in contracts of exchange and labour; State and municipal socialism. Regulation of work and wages; advances and subsidies granted to working men or their associations; cheap dwellings organised by or with the help of municipal bodies; conciliation boards and arbitration in disputes between masters and men, grants to men on strike; Government workshops; construction and working of canals and railways; supply of water and light; tax on commodities such as meat or bread; establishments for the supply of bread, meat, etc., instituted and managed by local authorities; steps taken to encourage or to check emigration or immigration, etc.

Labour bureaux; their aim and results. Museums of social economy. Administration of Trades Unions. Employment agencies with or without monopolies; labour exchanges. Comparison of the social conditions of different countries.

Risks attending various trades are given, and the employer's liability in case of accident. It will be as well here to simply give an intimation of the matters dealt with in this section, to wit: Individual and mutual accident insurance for workers; bonuses; insurance effected by compulsory deductions from wages; amounts included under general expenses or set apart from profits to effect the same object; accident regulations. Compulsory or optional insurance. National banks; insurance and Assurance Companies. Employers Liability Insurance.

Quitting the social economy building and proceeding across the Pont de l'Alma to the southern bank of the Seine, and turning to the right, one comes to the large building practically given up to apparatus and processes for heating and ventilating dwelling houses and public buildings. It may be taken that it would be quite impossible to gather together a more representative collection of all that goes towards making houses comfortable and healthy than is here collected.

First we take the system of heating and ventilating. It begins with the manifold methods of heating single rooms or whole buildings by steam, or by hot water, or a combination of these. Here are shown the piping and connections used in the various methods of conveying and distributing steam, hot air and water used, as has been said, separately or in combination. Then follow examples of natural ventilation, mechanical ventilation, and the combination of various methods. The visitor has but to look about him to find appliances and models of warming and ventilating devices of every description and kind for public buildings, factories, and dwelling houses.

Under the heading of apparatus of course come the stoves and furnaces, all with the special features that suit the various varieties of systems of heating used in all lands.

The visitor has but to look about him to find plans and models of warm and ventilated edifices of every description and kind, public buildings, factories, and dwelling houses. Under the head of apparatus, of course, come stoves and furnaces, all with special features that suit the various varieties of systems of heating used in all lands. Besides these, there are piping of every kind and size, standing side by side, and near at hand, many other means of scientifically distributing heat. Here too are steam boilers, and tanks for heating water, ranges for steam

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* * *

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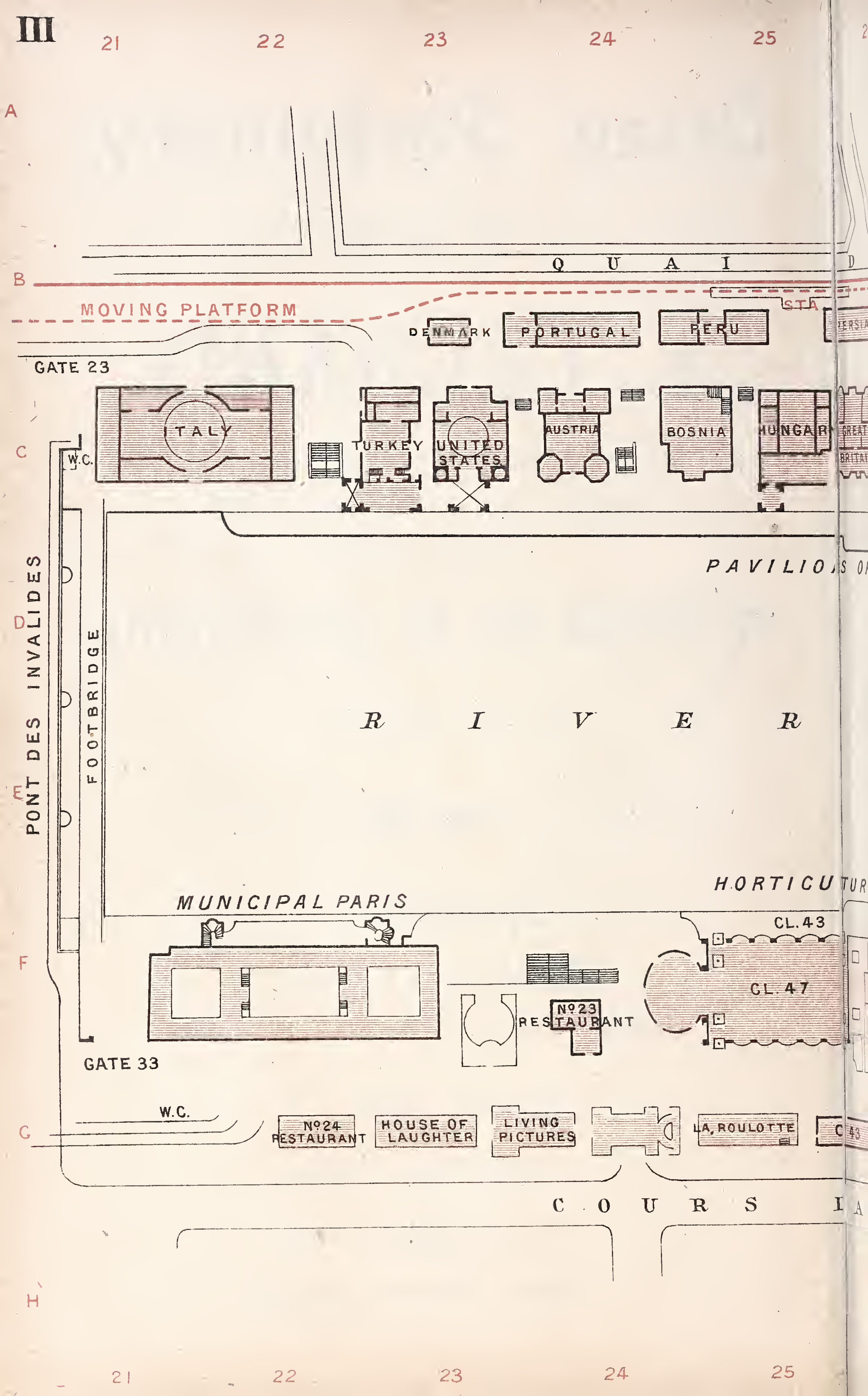
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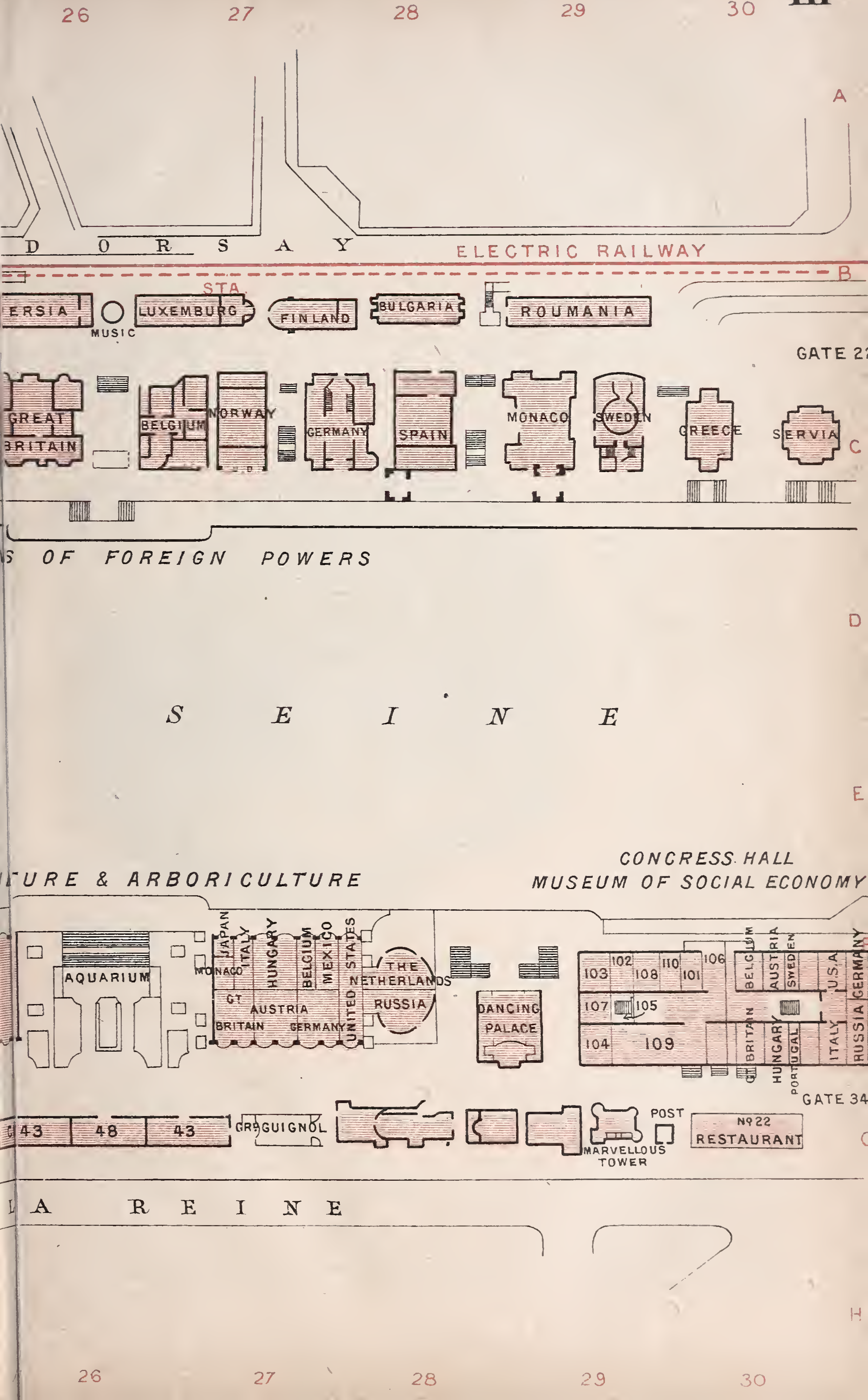
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and hot water, many kinds of piping for heating, and vast numbers of hot air stoves and ventilators. There are many kinds, the up-draught ventilator being in the majority. All the means adopted for direct renewal of fresh air in heated and ventilated buildings are to be seen in many varieties, and here one can compare each with all the others, so that the best is bound to be sifted out. Continuing, we come to the appliances for domestic heating, and the preparation and cooking of food. Fixed or movable stoves or chimneys are shown. Many oil and gas heating apparatus have a place. There are some kitcheners, and ranges in large varieties, and stoves that are so constructed as to be of use simultaneously for warming buildings and for cooking food. There are ranges and ovens for the preparation of special and particular kinds of food, and fixed or moveable stoves or appliances for the preparation of food and beverages on a large scale. Connected with these are ventilators worked by wind, and others, most ingeniously, by the difference of temperature. Then sanitation and ventilation of kitchens and small living houses have been gone carefully into, and a complete illustration of the various devices are to be found.

CERAMIC PALACE FACING THE INVALIDES.

The next special section is filled with accessory appliances connected with heating and ventilation. These consist of measuring and registering instruments, thermometers of the ordinary kinds; extraordinary fanes, which can be read at a distance; pyrometers, anemometers, a large assortment of gauges for measuring low gas pressures, and others indicating the level of water in pipes; appliances for measuring the passage of steam through pipes, and, in fact, registering appliances of all kinds. Then there are governors and appliances for distribution, regulators of temperature, draft and pressure regulators, automatic drip cocks and air cocks, cocks and taps special to heating apparatus.

Chimneys come next. Here are samples of draw plates, illustrative of the value of the narrowing of flues, and openings for hot air and for ventilation. There are gratings and plates, iron casing for heating apparatus, special sheet iron, and a myriad of chimney pots, and quite a number of smoke consumers.

Fireplaces and chimney pottery are taken into account. The visitor can see a splendid assortment of earthenware stoves and fireplaces and mantels, and the ornaments that go with these. Tiles, beautiful and useful, and all kinds of pottery for the proper decoration and protection of fireplaces are shown, and fire bricks, and refractory materials for fireplaces, hot air stoves, and chimney pieces, all occupying a proportionate amount of space. As accessories of what has gone before, there are fine examples of fenders, fire-irons, dogs, and fireplace utensils, patent fire lighters, and cinder rockers and sieves, and a variety of cleaning implements that would delight the heart of any housekeeper.

The eastern end of this building is given up to Hygiene. As is the case in all the Exhibitions that go to make up this great Exposition, this class begins at the very beginning with an historical sketch, and an able statement of the progress of hygiene. Quite naturally, M. Pasteur's keen researches into this wide field of science have been given a premier position. Here are to be seen applications of the learned doctor's discoveries for preventing the spread of infectious diseases. Then the laboratories are treated in a thorough manner, and chemistry with bacteriology as applied to hygiene, researches on contagion and infection, and the disinfecting processes and appliances in use, and the methods of obtaining and conveying drinking water with a view to preventing contamination.

The next special section is that of personal hygiene, and hygiene in dwellings. Here are shown the precautionary measures that should be taken against contagious diseases, and the means discovered for gaining immunity from ravages, such as vaccination for smallpox, inoculation for rabies, and all that. The application of the laws of hygiene to the selection of building materials, and to lighting, ventilating, airing and lighting buildings is shown, and the use of water in baths, and similar appliances, is dwelt upon, this special section ending up with the proper means of disposing of refuse. The hygiene of public and large buildings, such as schools, factories, workhouses, hospitals, asylums, almshouses, lecture halls, and theatres is also treated in proportion to its importance. The exhibition now assumes a wider range. It takes into account sanitary arrangements, proper maintenance of public thoroughfares, deposit, removal, transport, and utilisation of manures, and that very important point, the protection of drinking water from contamination., From the country one passes to the towns. Here can be seen the manner in which public thoroughfares are treated, the cleanliness of public roads and streets, the mode of surface draining and sweeping them, the dimensions of buildings (height, number and height of storeys ; dimensions and ventilation of living rooms ; size of courtyards and yards). Then the emptying of cesspools, and the untechnical side of the works for supplying towns with water, the filtering and sterilising processes through which the water and other substances pass ; the proper disposal of refuse, the various systems of disinfection of sewage, the scheme for sewage farms, and lastly, the utilisation of the refuse of a great city. Still treating of the health of towns, it is here shown what sanitary authorities are necessary, how to organise and guard against infectious and contagious diseases, the manner in which infectious patients should be conveyed and isolated, how infected clothing and apartments should be disinfected, the best means of regulating public and private slaughter houses, and the establishment of municipal lavatories, cemeteries, and crematoriums.

The sixth special section of this department is given to illustrating the best means of protecting frontiers against infectious diseases, the medical inspection that should be enforced on the land approaches, and the infirmaries established, and the disinfectants used at frontier stations. In regard to sea approaches, the sanitation of ports, the sanitary regulations in ports, lazarettos, quarentine stations, and the medical measures to be taken, and the disinfectants to be used on board the ships are all scientifically dealt with.

Then come food stuffs and other commodities, and herein is shown the manner of going about the inspection of these, and examination for adulteration, as well as the methods for preserving foods. The inspection of natural and artificial mineral waters, too, is not overlooked, nor has the progress that has lately been effected in the world from the hygienic point of view.

A special section treats of medicinal waters and sanatoriums, the analysis of medicinal waters, the untechnical side of the methods of obtaining them, and of working the mineral springs. The various methods of cure by means of mineral waters, and the apparatus employed with this object. At this point, swimming baths are dealt with, and the inhaling and massage rooms are described. In regard to sanatoriums and hot water springs, the general arrangement of the premises is shown, with all their covered walks, their dressing rooms, baths and shower baths. Then follows the use of antiseptics, particularly in places frequented by consumptive patients, and also the methods of bottling and preserving mineral waters. Lastly, in this building are to be found the statistics of still-born children. Specimens of certificates of cases of death, the mortality due to epidemics, and an analysis of the sanitary legislation.

Passing out of this building, and proceeding westward, the visitor comes to a large building devoted to the armies and navies of the world. The first department of this wonderful show that the curious will look at is that given over to ordnance and artillery equipments. Here you will find the plant and processes used in arsenals and in the manufacture of war material. There is for the land service the ordnance and projectiles, and the same for the sea service. Then a display of firearms that will give the spectator a notion of the deadly instruments that are now used in warfare by civilised powers. Next to these comes the ammunition, the explosives, models of powder mills, and all that. Following are swords and side-arms (more beautiful to look upon than firearms, but now known to be nothing like such deadly weapons as the former); and, following the swords, come the artillery equipments, gun carriages, and other military carriages; and the last of this first section is comprised of naval artillery equipments, including gun carriage and other vehicles.

The next class of this group is that devoted to military engineering and accessory services. Here is shown the material used by military engineers for the construction of railway bridges, for laying out and constructing railways in colonies, barracks at home and abroad, electricity and its application to military engineering, telegraphs and telephones, military bridges, and even military ballooning. This is a most entertaining class, even to a spectator unlearned in matters connected with the Army and Navy.

The third class in this group is given up to naval construction, hydraulics and torpedoes. Here are ships of war, hulls and their fittings, machinery for the propelling of ships, the many complicated auxiliary machinery now needed aboard the modern man-of-war. Here are appliances and products of arsenals, appliances of electricity, hydraulics, torpedoes for attack and defence, naval schools, drawings, photography, and the means of saving life at sea.

We then come to the administrative departments. These treat of the clothing, equipment, berthing, camping and hutting of soldiers, sailors, and marines, the various appliances and tools for use in administrative departments. The commissariat department, of course, treats of the field bakery, preserved foods, and apparatus for preserving foods. In this department, too, are shown the musical instruments used by soldiers and sailors, and appurtenances for farriery, making harness, and even for sea fishing.

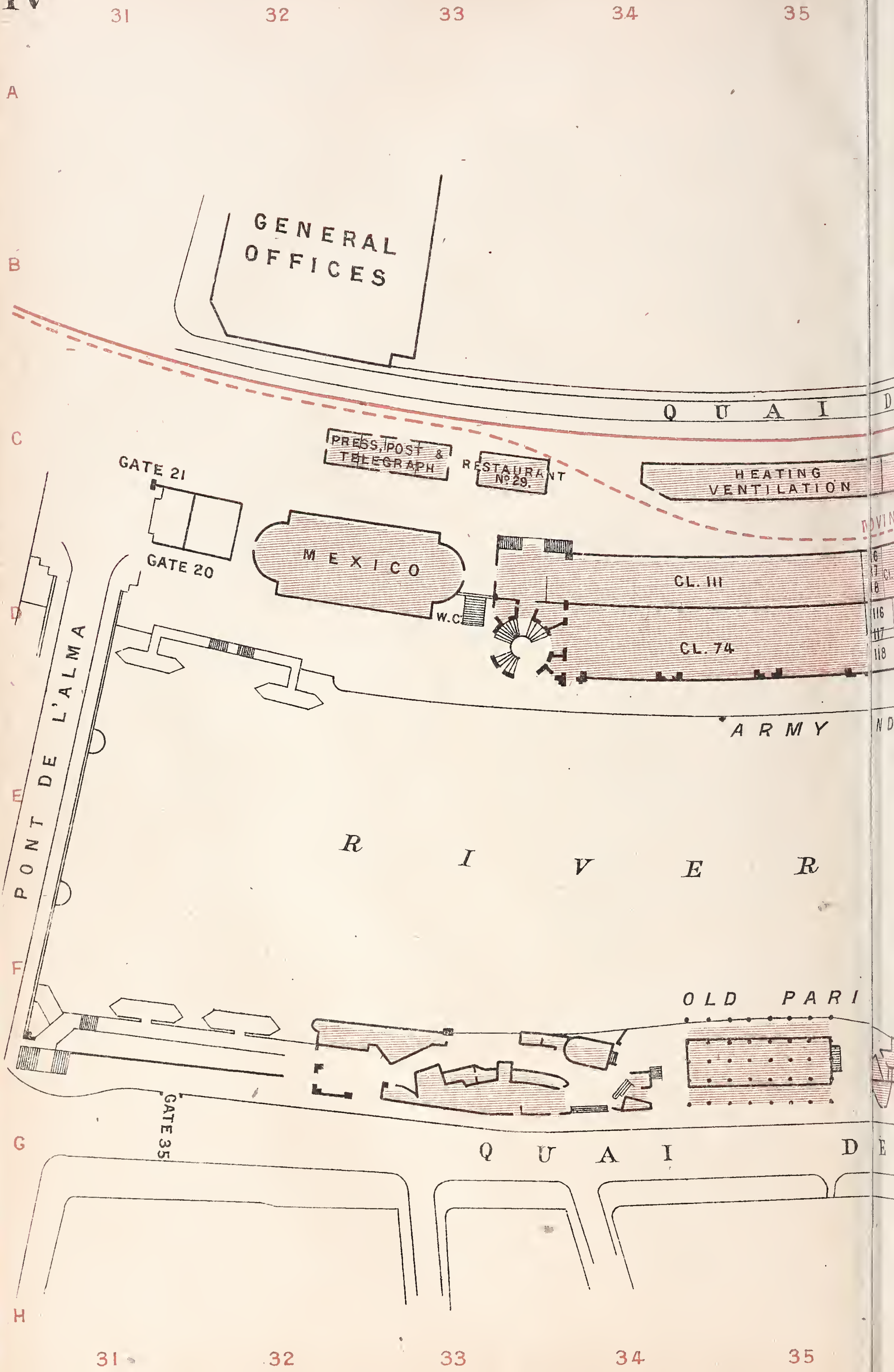
The last special section of this group consists of hygienic and sanitary appliances suitable for the Army and Navy. Herein are shown the working of the Army Medical Service in time of peace and in time of war, and the many appliances, and the best methods of removing the wounded away from the field of action or from hospital. The societies for giving aid to the wounded are dealt with, and examples of the filters and other appliances for purifying water are shown.

Among the English exhibits in this section are the War Office, Messrs. Vickers, Son and Maxim, the Thames Ironworks Shipbuilding and Engineering Company, The British Non-Flammable Wood Company, The Birmingham Metal Munition Company, and Errick Stewart Bruce. Great Britain's Committee for this Army and Navy display has as its Chairman the Duke of Connaught, who is assisted by the Duke of York, the Duke of Devonshire, the Marquis of Lansdowne, the Earl of Hopetoun, Admiral Sir J. Edmund Commerell, V.C., Sir Redvers Buller, V.C., Sir Charles Dilke, and others thoroughly up in the matter in hand. The remainder of this Army and Navy building is given up to materials and plant used in the mercantile marine. First, there is the raw material, and materials specially used in building and fitting out ships and boats. Then there is a display of the special tools and implements required in shipbuilding yards and in marine engine works. Following these come drawings and models of all kinds of sea or river shipping and boats, and specimens showing the fittings and internal arrangements of such vessels and boats. There are launches and small crafts propelled by machinery, sails, or oars, drawings and models of tugs and towing boats. Then there are drawings of engines and machinery used on vessels and boats, not only drawings, but specimens and models. There are boilers, water heaters, evaporators, filters for feed water, engines, condensers, propellers, auxiliary machinery to main engines, different kinds of pumps, governors, speed and direction indicators, and engine counters.

The arrangements for preventing fire in store rooms, holds, and passages are shown, as also are tank engines, and machinery for handling goods. After these come the equipment of ships of the commercial navy. The winches, tackle, chains, anchors, hawsers, cables, steering gear, order transmitters, machinery for working, as well as ships' lights, signals, fresh water condensers, lighting, heating, airing, ventilating apparatus, special apparatus for the production and use of electricity, freezing apparatus, sextants, and other instruments for determining position at sea, chronometers, flags, ensigns and signals, special furniture, and all those things that go to make a staunch sea-going ship. Next pleasure crafts are attended to. There are yachts, and steam or sailing boats, rowing boats, outriggers, skiffs, and their furniture. Visitors will be interested to find that a special section is devoted to submarine navigation. There are lifeboats and apparatus for saving life at sea, and succouring ships in distress, hawsers, lines, pass ropes, cork jackets, floats, and life belts, and such appliances. There are devices for pouring oil on the sea, plant for raising wreckage, and submarine operations in recovering sunken property, and this exhibiton winds up with statistical information, special maps, charts and publications relating to mercantile or pleasure navigation.

Passing westward of the Pont d'Iena, the visitor still keeping close to the river, comes upon a part of the Exposition devoted to forests, sports, fishing, hunting, and the gathering of wild crops. The Committee which looked after this department for Great Britain is the same as that which had in charge agriculture and arboriculture and horticulture, the Earl Spencer, it will be remembered, being Chairman. To most Anglo-Saxons (for no people of the world so keenly relish outdoor life) this gathering together of all things appertaining to the open air or to the hunting of wild animals, and to the thrashing of streams for game fish appeals with irresistible charm; indeed, it is a choice portion of this marvellous world show.

IV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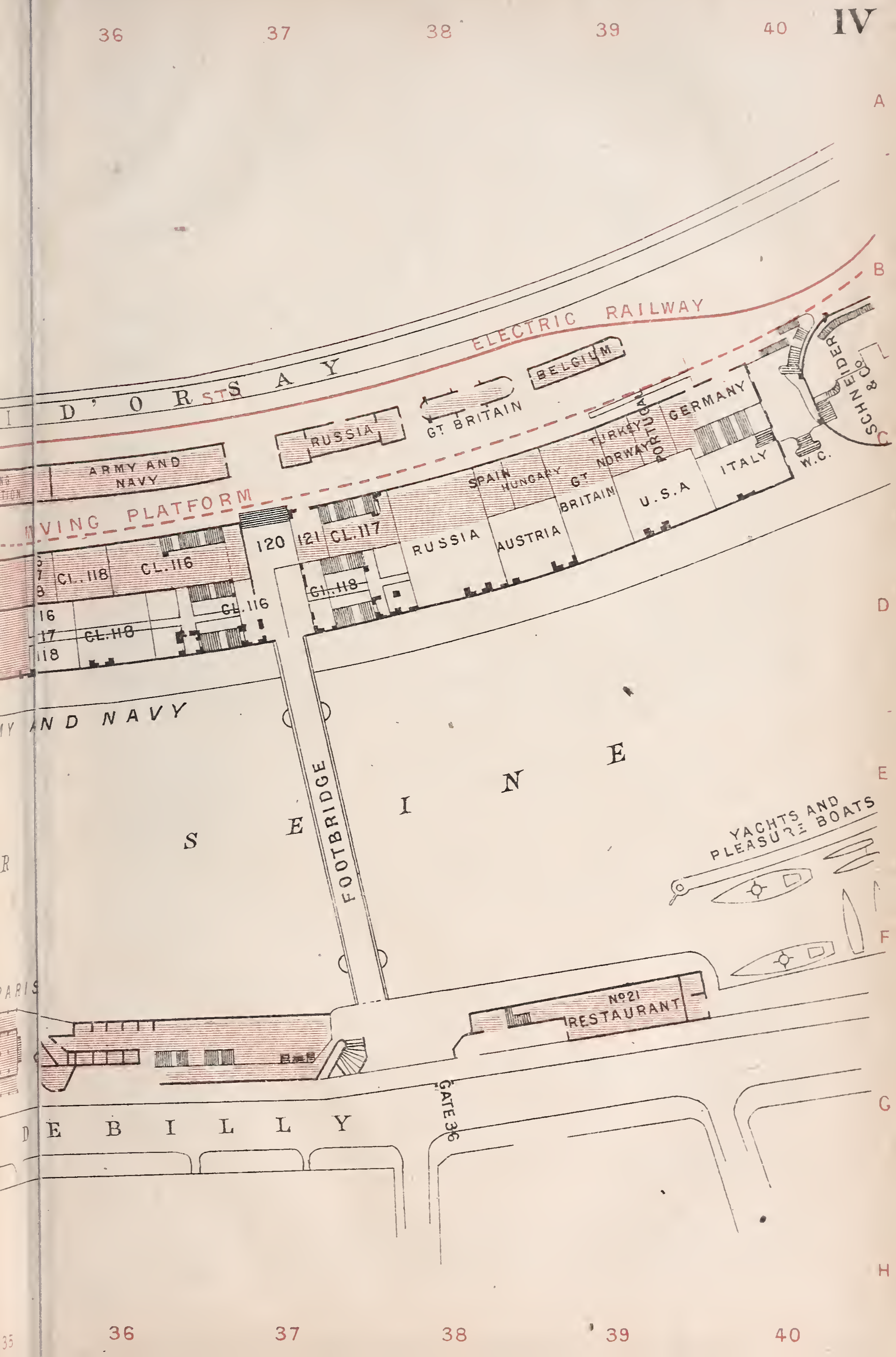
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It begins with the exhibition of appliances and processes used in forestry. To start with, there is a wonderful collection of seeds gathered from all countries where trees flourish, which, of course, means every habitable region of the earth. Next to the seeds are shown specimens of indigenous or exotic forest products, and in this department the French have been wonderfully fortunate; their persistency and ingenuity have been rewarded by a magnificent display. Then we come to the implements that are of special use for gathering, preparing, and the preserving of seeds. There are plans of drying houses, and numerous specimens of the implements used for nurseries, and appliances for tree cultivation and forestry in general.

The next special section is devoted to the processes of nursery culture, and the cultivation and management of forests. Forest topography is well looked after, while forest works are fully illustrated; and there are plans of keepers' houses and saw mills; all means of removing cut timber, and the drainage of forests, and the replanting of them so that future ages may be well supplied with timber; the mode of planting with trees, and turfing, and all that; and ingenious devices for arresting the shifting of dunes that in some parts of the world are given to travelling, and laying waste valuable forest lands as well as cultivated fields.

In the next section of this group are shown the products of the cultivation of forests, and of forest industries. Here are many specimens; good, sound samples there are of all kinds of forest products. There is wood for cabinet work, for construction purposes, for fire wood, for wrought wood, staves and cask wood, lath wood, and wood for dyeing purposes, the cork trees, the bark for textile purposes, the tanning, and fragrant and resinous substances; after these the products of forest industries, turnery, basket work, esparto manufacture, and very great and picturesque display of wooden shoes, wood wool, corks, dried woods, charcoal, raw potash, and, in fact, practically everything that is made of these species of wood; thus finishing the most entertaining exhibition of the art of forestry, an art that is receiving greater attention every day.

Now we come to hunting and sporting equipments. The first section of this is given over to manufacturing appliances and products. Here are found the special machinery and tools employed in the manufacturing of arms, such as gun-shaping machines, special lathes for instantaneous reproductions, accurate machines for finishing the internal bore of barrels, boring machines almost without number, rifling machines, special machines for making the wooden stocks of guns, milling machines, and machines for making the different parts of arms in metal, machines for polishing and straightening tempered parts; next there is the machinery, as well as the tools required for making cartridges and ammunition.

Then the visitor comes to the weapons themselves. This is a retrospective exhibition, for their are many copies of ancient weapons which show the gradual development from the day of the sling to this day of the repeating rifle and cordite powder. There is a good exhibition ot bows and crossbows, of guns, rifles and pistols, and accessories appertaining to every kind of small arms. Here we find the solid bullet and the much-discussed hollow explosive bullets, bullets that spread after touching their object—in fact, every sort of leaden pellet that kills. There are percussion caps, priming, and cartridges.

The next set of exhibits is devoted to hunting and sporting equipments, and the appliances used for training dogs, and also those used in fencing schools.

In Class 52 we find the products of hunting and shooting. Here are drawings and collections of land and amphibious animals, birds and their eggs. These products have been carefully, accurately prepared.

Then there are the skins and furs of beasts in the rough; following these, dressed skins for furriers, bristles, hair and down, undressed feathers and birds' skins, horn, ivory, bone, shell, musk, civet, and all that.

To be sure, in a land containing so many patient fishermen as France, it was only to be expected that the Piscatorial Department in this mighty Exhibition would be thoroughly up to the mark. To make it so, France has indeed hauled her net over the world, and dipped her hook into the waters of every quarter of the globe, the result being a thorough representative exhibition, and one which no enthusiastic fisherman should fail to study.

The first class in this department is set aside for fishing appliances, tackle and products, and fish culture is also included. To begin with, here are to be found floating appliances appertaining to fishing, nets, tackle, and implements for sea fishing, nets, traps, tackle or appliances for fresh-water fishing.

Section 2 of this class contains instruction on marine fish culture, crustacea, molluscs, starfish, and other radiata. Next fresh-water fish culture is gone thoroughly into, and plans are given of the buildings required for the hatching out of fish and raising them to an age when they are strong enough and knowing enough to swim out into the waters haunted by the terrible ogres that lie in wait to devour little fishes. All the appliances and processes used in pisciculture, ingenious fish ladders which enable the finny tribe to surmount high falls are here shown, and even the cultivation of leeches is explained and expounded.

There is a representative number of different sorts of aquariums, and a marvellous display of drawings and collections of fishes, cetacea, crustacea, mollusca, etc. This class ends with pearls, shells, mother of pearl, coral, sponges, tortoise shell, whalebone, spermaceti, ambergris, fish oils and fats.

Then the visitor comes to the last class in this interesting group, that class which deals with appliances and implements used for gathering wild crops.

In the first section of this class, we find appliances and implements used for gathering the spontaneous products of uncultivated soils. Many uncivilised peoples that inhabit the continents of the earth have for generations depended for existence on the grains and fruit that grow without cultivation, and to this day much of the commerce of the world is taken up with gathering and consuming crops that no man has sown, but that all men endeavour to reap.

Here are mushrooms and truffles. Here are scores of varieties of edible wild fruits and edible plants and leaves and bark and roots, and the uncultivated fruit used by herbalists, pharmaceutical chemists, dyers, manufacturers of paper, oils, or other substances. India-rubber has a large section to itself, and gums and resins come in at the tail end to make this group an all-comprising one.

It will be seen that the many various exhibitions that may be termed side-shows are given in this map. They are one and each and all of them thoroughly ingenious and enjoyable, and are considered of such importance that a special chapter in this "Anglo-Saxon Guide" will be found devoted to them, so that nothing in regard to them will be said here.

As was to be expected, there are many British firms' exhibits in this Sports Department of the Exposition: Messrs. Boss and Co., Messrs. Cockering and Cooper, Messrs. Ely Bros., Messrs. Farlow and Co., Messrs. Holland and Holland, The Iron and Steel Institute of London, Messrs. James Purdley and Sons, Messrs. Westley, Richards and Co., and many others contribute to a show that is worthy of the greatest sporting country of the world.

Leaving the home of Forestry and Sport, the visitor passes under the mighty spans of the Eiffel Tower, and finds himself in the beautiful gardens in the Champ de Mars. Entering the building that stands to his left, he finds himself in a veritable world of wonders.

The first section of this great building contains the exhibits of Mining and Metallurgy.

The first class in this group is that of the working of mines and quarries, and the plant, appliances, processes and products of so doing. In this class there is a multitudinous display. First we come to the delicate and complicated appliances and processes used in subterraneous surveying. Then there is a thorough illustration of the way to go about prospecting for minerals. There are the appliances for sinking artesian and other wells, and for boring for minerals of all sorts, and for oils. Next come works for obtaining natural mineral waters, and the beautifully executed drawings of the plant, and the plant itself, and the methods employed in sinking and lining shafts. Then follow plant and methods adopted in driving headings, and the plant and processes for excavating and sinking mines and quarries, the hand tools that are necessary for the same, and the mechanical appliances also, and the installations for compressed air, and the explosives used for blasting in mines and quarries, and the methods of igniting these explosives.

After these one finds the plant and methods adopted for underground transport, and the machinery employed for extracting ore from mines and for lowering rubbish for filling up. Next there is to be seen machinery and apparatus for lowering and raising those who work deep under ground, and also that used for pumping and draining and keeping dry and safe all sorts and conditions of mines. Another most important feature in underground working is that of ventilation, and here one finds everything that appertains to this, such as air-shafts, fans, and so forth. Next a space is allocated to lighting apparatus, and there is a beautiful display of safety lamps, and safety appliances of all sorts, safety catches, safety signals, and life-saving appliances. Next the plant and method adopted in the handling and surface transportation of mineral products are shown. There are mineral railways, inclined planes, loose cables, aërial cables and tramways, loading appliances for waggons, boats, etc. There is special machinery shown for use in working salt mines; the methods of working these are given, together with those for petroleum deposits, auriferous sands and gravels.

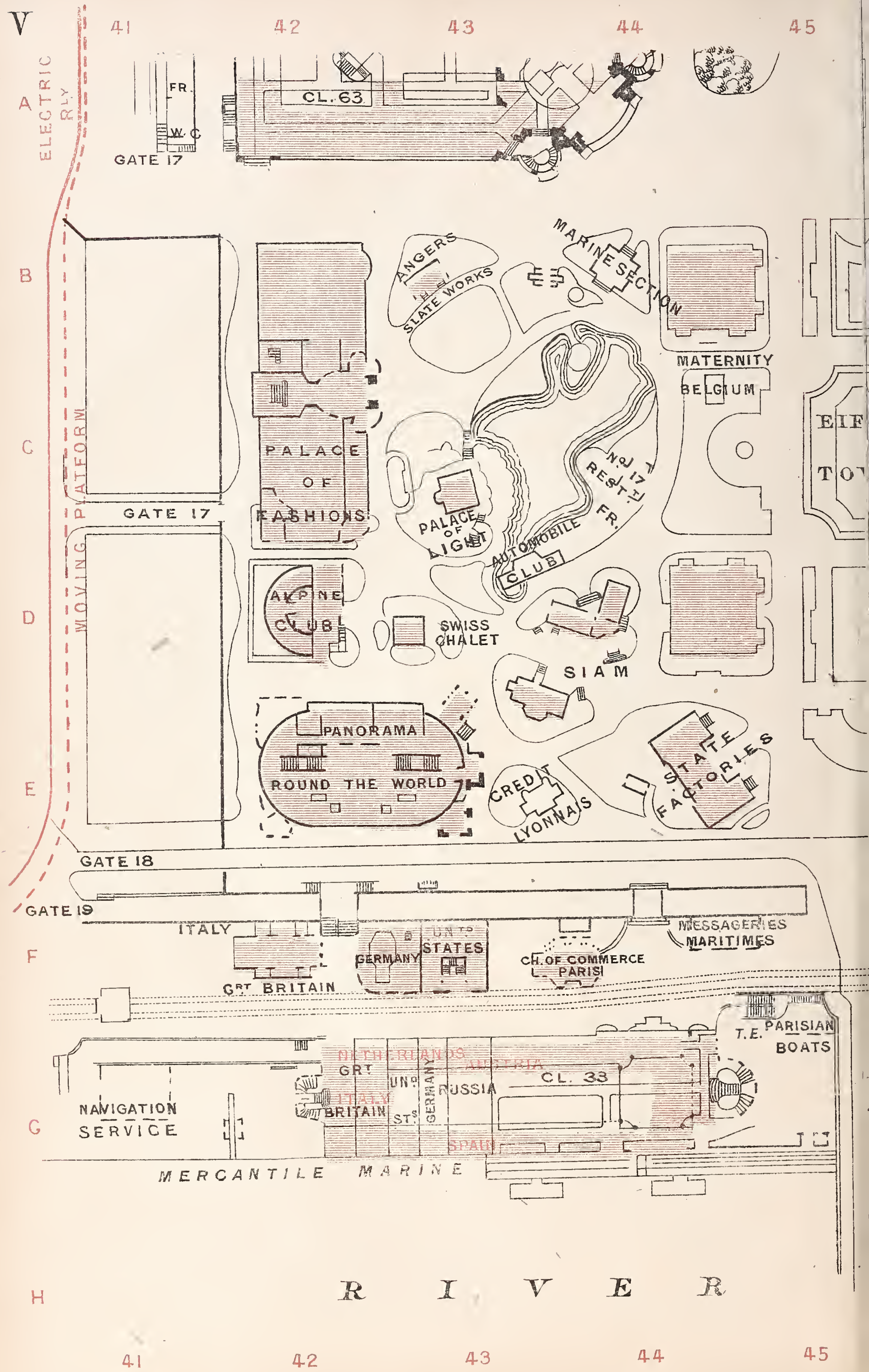
Space then is filled with the apparatus for the washing and the mechanical preparation of ores and mineral fuels, the machinery for compressing fuel, and for the preparing of charcoal, and here are shown coke ovens. Then the visitor finds spread out for his inspection ornamental stone, hard and building stone, rough-hewn stone or polished. Lying side by side with these is the stone which furnishes lime and cement. Close at hand are grinding stones, millstones, pumice stones, stones used for sharpening and polishing purposes. To one side is moulding sand, and near it refractory sands, then clay, kaolins, flint and other materials employed in the manufacture of pottery and porcelain. There are natural earths and fire-clays, boracite, fluor-spar, asbestos, meerschaum, graphite and plumbago, slates, and even gems and precious stones. Here is rock salt, salt from salt springs, saltpetre and nitrates, sulphates, alums and other natural salts, boracic acid and borax, raw sulphur and pyrites, natural mineral colours, natural mineral manures, such as phosphates and coprolites, etc., and another space is given up to mineral fuels such as peat, lignite, coal, and anthracite. There is coal dust, and also compressed coal, raw petroleum and asphalt, coal gas, rock asphalt, mineral wax and bitumen, raw yellow amber and jet. Then there are metallic ores of every kind and description and native metals.

The last section of this class shows geological maps and underground topography, many maps being in relief, and plans for working mines are also given, together with statistics and publications dealing with geology, underground topography, mineralogy, and all things to do with mining.

Metallurgy is the next class. Here the plant, processes and products relating to the manufacture of refractory materials for metallurgical purposes, fire-bricks, blocks, crucibles, retorts and glazed bricks are met with. After this come gas generators and gas furnaces employed in metallurgy and the application of liquid fuels to metallurgy. Then comes the treatment of the ores of iron, manganese and chromium, and the plant employed in ironworks and blast furnaces, the blowers, hot blast apparatus, and all that. Next is the plant employed in foundry works, cupola furnaces and blowers, the production of pig iron and casting of iron alloys. Following these are the plant, processes and products employed in the manufacture of iron and steel ingots, in bars, in sheets, or in finished plates, and in the production of steel castings. Here too are puddling, reverberatory and smelting furnaces, power hammers, pressers and rollers, and the general arrangement and plant for producing Bessemer steel by the acid or the basic process, and for producing open hearth steel or crucible steel. Various methods of manufacturing iron or steel direct from the ore, and carburation of iron are also shown. Then come machinery, processes and products connected with iron ware, hoop iron, band iron, rods for wire drawing, iron and steel wire, iron of special sections, tremendous armour plates, sheet iron for commercial and building purposes, corrugated iron, axles, tyres, wheels, large forgings, gun barrels, projectiles, welded and weldless tubes, and a host of other things. The production of galvanised, leaded, and nickelled iron and tin plates (lustrous, dull, mottled ornamented, printed, tinplates, tins for preserves and blacking), are displayed to the eyes of the spectator. Following comes the treatment of copper ore by the dry and by the wet methods, the plant and processes employed at copper works, and there is copper shown and its alloys in ingots, bars and sheets. Next the treatment of various ores is shown, the plant for extracting and refining metals, furnaces for calcination, roasting, smelting, distillation, cupellation and such things, amalgam plant and accessories. Then tin ingots, zinc in ingots, sheet zinc, and zinc white. There is lead in pig, sheet lead, and lead pipes. There is quicksilver, antimony and oxides of antimony, nickel in ingots, hammered, drawn or rolled nickel, then also is metallic arsenic, aluminium and aluminium alloys. Precious metals too are here exhibited, and various alloys that are used with them to make them more serviceable. To end up this class there are the plant, processes and products of electrical metallurgy, and the plant used in washing goldsmiths' dust and dust from refiners of precious metals.

The last class in this group is that of metal working. It begins with the plant and processes used in foundries of bronze, brass, zinc, tin, malleable cast iron and other materials. And here is shown the special tools (other than those included in the machine tools class), by smiths, farriers, bolt and screw manufacturers, wire drawers, nail makers, buckle makers, chain makers, coppersmiths, plate-makers, tin-smiths, edge tool makers, ironmongers, locksmiths and other manufacturers and mechanics. The appliances and processes employed in enamelling metals, and metal articles are also on exhibition, as well as those for fine rolling, and for gold, silver and tin beating, and the apparatus for working platinum. Following these are shown the processes for coating metals with a more precious, malleable or durable metal, as well as the great art of electro-plating.

The second section in this class is devoted to bells and hand bells,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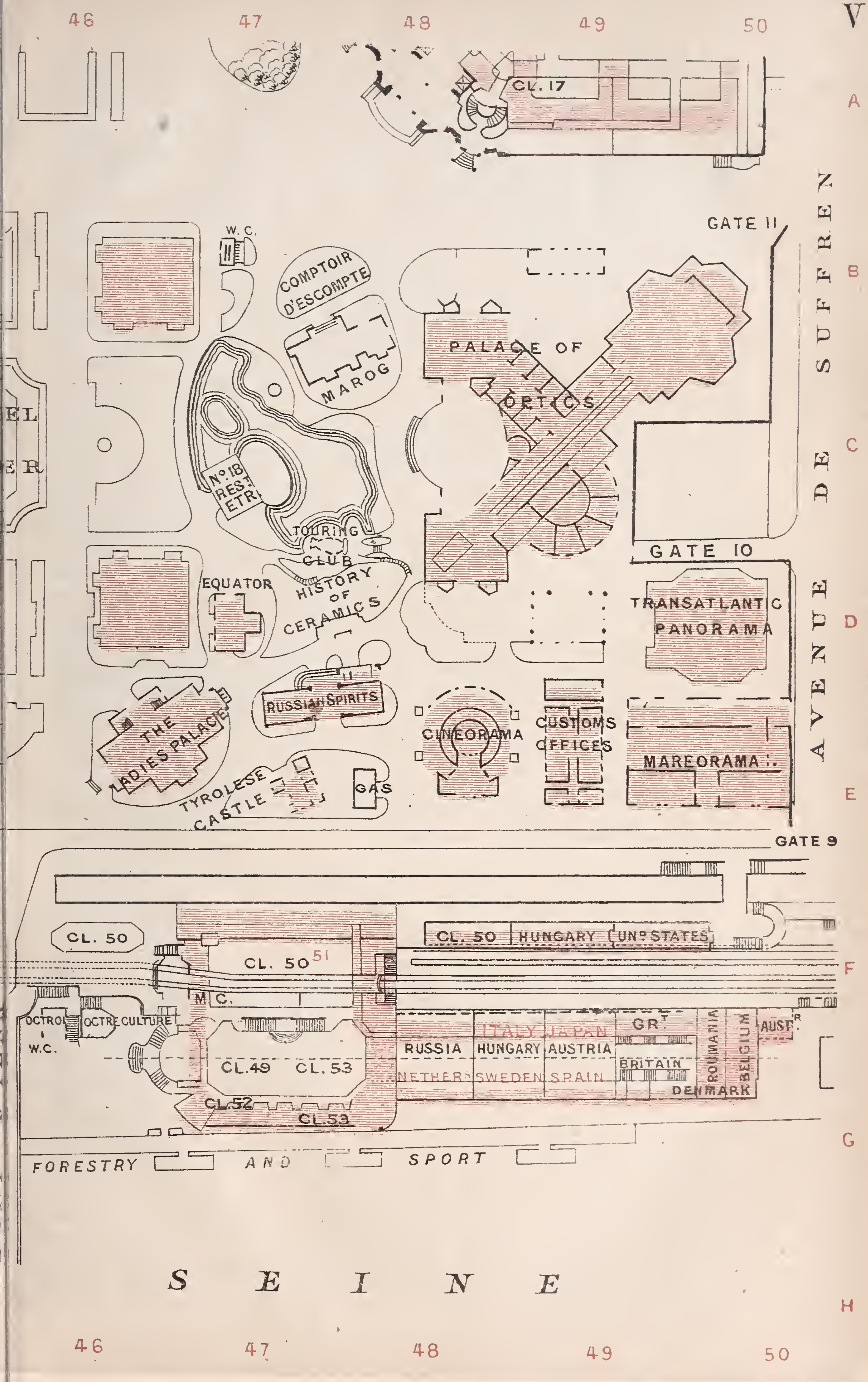
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to taps, cocks, and bronze fittings, and various forgings, farriers' articles, horse shoes, and even ox shoes. Here too are shown bolts and nuts, screws for wood and metal, and the products of wire drawing and nail making. Here are French nails, brads, pins, and needles; wire rods are in plenty. There is a great variety of barbed wire shown, and other sorts of wire for fencing, for net and gauze purposes, and the products of fine wire drawing machines. Close by are the products of buckle making, staples, hooks of various kinds, and hinges, products of chain making, and weldless chains. Then come household utensils in copper and tin, and metal plates, flanged, punched, cut, ornamented, perforated, and all that. There are enamelled plates, and castings for building, household and ornamental purposes, metal pots and pans, plain, polished, japanned, enamelled, granited, and lined with porcelain and other substances. There are drawn tubes, and piping in iron, steel, copper, brass, and lead. There are metal caps and stoppers, buttons and studs, hooks and eyes. A great feature is made of steel pens, and there are spectacle frames, and springs innumerable. Next to these come the edge tools, every variety of article that cuts we would think is gathered under this roof; scythes and sickles, pruning hooks, hacking cutlasses, axes, hatchets, files, in fact, every variety of cutting tools. Next to these are the pulleys and the pulley blocks. Then come flat irons, and still further on builders' ironmongery, door hinges, window fasteners, door knobs, door knockers, locks, padlocks, bolts, keys, patent and safety locks. From that we pass to metal safes, iron rooms, and strong rooms of all sorts in metal, and having furnished the house, we pass into the garden, where are found vases in wrought or cast iron, then again paying attention to the indoors of a house, we come upon stair rails and balusters, railings and balconies in artistic wrought iron, iron beds, and various utensils, painted, enamelled, or japanned. Summer houses and pavilions, too, are shown in iron or in steel. There are aviaries, sheds, iron framework of temporary structures, shop shutters, iron shutters and Venetian blinds, iron brackets, and a multitude of other things. Then come various products of fine rolling and gold, silver and tin beating, and solder, and many examples of gilding, silver-plating, copper-plating, bronzing, galvanising nickel-plating, electro-plating, and last of all come the galvanised or leaded iron sheets, and plumbers' work in lead and zinc. This completes the mining and metallurgy section.

Continuing in this building, still walking towards the Ecole Militaire, the visitor will come upon one of the largest of all the many groups that make up this great Exhibiton. There is the group reserved for thread, yarns, textile fabrics, and clothing. Here Great Britain again has, as the Americans say, "cut a wide swathe," for the Committee appointed by the United Kingdom to look after this section of exhibits was a strong one. The Right Hon. Charles T. Ritchie, M.P., occupied the chair, and his fellow Committee men, among whom were the Earl of Mayo, the Right Hon. James Bryce, M.P., the Right Hon. William L. Jackson, M.P., and the President of the Dundee Chamber of Commerce entered keenly into the scheme.

The first section that confronts the visitor on stepping from the Mining Department is that of threads and fabrics of flax, hemp, and other vegetables, and cordage in general. This class comprises unbleached, bleached or dyed yarns and threads, and unbleached, bleached, dyed, printed and prepared fabrics. First there is shown the threads of flax, of hemp, of jute, of Ramie and other vegetable fabrics Then come plain or figured canvas, ticking, damask linen, cambrics and lawns, and these are followed by plain and fancy handkerchiefs, fabrics of flax or hemp mixed with cotton or silk, and fabrics made of vegetable fibres other cotton, flax, hemp, jute and ramie. At the end of this class comes the fine display of cordage, comprising cables, ropes, and strings of every thickness, strength, and variety.

Class 77, as it is designated on the plan of the Exhibition, consists of the plant and processes employed in the manufacture of textile fabrics. It begins with the apparatus used in operations preliminary to weaving, and then followed on by warping machines and cop winders. Here, too, are reading in and repeating machines, hand and power looms for manufacturing plain fabrics, looms for the weaving of figured and brocaded stuffs and box looms. This class ends with knitting machines for hosiery, and those for making lace and tulle, and for fancy trimmings. This class does not cover so much flooring as many, but is a thoroughly enjoyable one to inspect.

Appliances and processes used in bleaching, dyeing, printing, and finishing textile materials in their different stages are next shown. They begin with apparatus for singeing, brushing, and cropping textile fabrics, as well as those used for washing in ley, scouring, washing, drying, moistening the various textile materials in their different stages, and for boiling, and for colours and thickenings. Here, too are found tools and appliances used for the preparation of patterns for printing on stuffs, and machinery for starching, dying, and printing the stuffs, together with steam apparatus in great variety. All kinds of machinery for finishing are found, raising machines, drying machines, and tenter frames, calenders, glazing, watering, embossing and beetling machines, and others for measuring and folding, and all the things needed for the finishing of textile materials. There are appliances used for dyeing silks, machines for beating, shaking up, stringing, and lustreing. There are scouring bowls, and appliances for speckling and for bleaching by electricity. Laundry work is now taken, and the washing in ley, the rinsing, the drying, ironing, and getting up, all is shown. Here too are the processes for cleaning by dry process with benzine, and its homologues, as well as for cleaning by wet process, dyeing and pressing.

The second section of this class is handed over to specimens of bleached or dyed textile material before being spun. There are specimens of yarn or thread of cotton, linen, wool, silk and so forth, whether these be pure or mixed, bleached, dyed or speckled. Here, too, are specimens of textile fabrics, bleached, dyed and printed. There are prepared yarns and threads, specimens of chemical cleaning of textile materials before being spun, or as fabrics.

Next to this class, there are placed the appliances and processes for spinning and rope making. This includes machinery employed in preparing and spinning for textile materials, appliances and processes used in subsequent operations, spooling, winding, twisting, throwing and mechanical finishing of goods. Here are exposed to view the separate parts of spinning plant, and machinery used in their manufacture, the apparatus used for testing, separating, and numbering, and special attention has been paid to plant used in cordage factories.

We now come to Clause 85, that is the tailoring, dressmaking, and clothing for men, women and children department. The whole of the processes of the making of clothes is here gone thoroughly into. Here are the clothes made to measure for men and boys, not only ordinary suits, but shooting, hunting, and riding costumes, as well as leather breeches, and similar articles of men's attire. There are costumes for gymnastic exercises and games. There are naval, military, and civil uniforms, robes for magistrates and civic dignitaries, barristers, and professors, ecclesiastical vestments, liveries, and many different costumes for children. Ready-made clothing for men and boys is also shown, as well as clothing made to measure for women and girls, that is to say, dresses, vests, jackets, mantles (made by ladies' tailors, dressmakers, mantlemakers). There are riding habits and sporting costumes, and ready-made clothing for women and girls, and in this class there are many artistically shaped models.

Passing on the visitor comes to various trades connected with clothing. The exhibition begins with hats made of felt, wool, straw, and silk, and caps and hat trimmings. Then come artificial flowers for head-gear, dresses, and for all other purposes. There is an eye-taking display of feathers, and ladies will be particularly interested in the gorgeous spread of millinery, not to mention that which follows—false hair. After this comes shirts and underclothing for men, women and children, then hosiery of cotton, wool, silk and floss silk. There is knitted hosiery, and a special department devoted to ties and socks. The same can be said of corsets and corset fittings, elastics, braces, garters and belts, and a splendid exhibition of gloves. We now come to boots and shoes for men, women and children. Here are top boots, ankle boots, shoes, bedroom slippers, goloshes, soles, and other accessories of boots, and a special display of gaiters. Adjoining these are whips, sticks, sunshades, umbrellas, and a display of buttons of china, metal, cloth, and silk, mother of pearl and other shell, corozo, horn and bone, papier maché, buckles, eyelets; fans and hand screens finish this class.

The section after these has been reserved for silks and silk fabrics, and there is a gorgeous display of silk raw, thrown, twisted, of floss silk and silk waste, threads of floss silk or silk waste; artificial silk, too, has shoved its way among the purer goods. There are fabrics of silk, pure, floss or waste, silk or floss silk mixed with gold, silver, wool, cotton, and so forth, and these are plain, figured, or brocaded, some of them unbleached, others dyed, and many printed. Then come velvet and plush and ribbons of silk or floss silk, both pure and mixed, and shawls of silk or floss silk, and these, too, some of them, being pure, and some of them mixed.

The Class that follows is numbered 84, and is for the display of lace embroidery and trimmings. This is most comprehensive in its character. It begins with hand-made lace, blondes and guipures, pillow made, worked with needle or crotcheted, made of flax, cotton, silk, wool, gold, silver or other thread. Then there is the machine-made lace, tulle, plain or embroidered, imitation lace, blondes and guipures made of all kinds of thread. Next comes hand-worked embroidery, needle and crotchet embroidery, worked with all kinds of thread on all kinds of grounds (fabric, net, tulle, skin, etc.), including cross-stitch on canvas, and also embroidery appliqué with precious stones, pearls, jet, spangles, feathers, shells. There is frame embroidery made by patent machines, with ground retained or with ground destroyed by cutting or burning. In the trimming department are galloons, plain or twisted braids, fringes, tassels and all kinds of ornamental and appliqué work, made by hand or on the loom for millinery and mantles, clothing, and ecclesiastical vestments, military and civil uniforms, furniture, saddlery, and carriages. There are metal threads or plates, gold and silver, real or imitation, spangles, chenilles and all special articles employed for trimmings. Church embroidery has a special section to itself. Here the visitor will find church ornaments and linen, alter cloths, church banners, and draperies of fabrics trimmed with lace, embroidery and braiding. Then come lace curtains, guipure, embroidery on tulle or fabrics, all kinds and conditions of blinds, screens, door and mantel hangings, and many different varieties of draperies trimmed with lace, embroidery, braiding and fringes.

Quite appropriately next to lace embroidery and what not is placed perfumery. In the manufacture of perfumery, as every one knows, the French greatly excel, and they have made this feature of the Exhibition a delightful one. First the visitor is asked to inspect the raw materials from which perfumery is distilled, such as essences, infusions of flowers in fats, concentrated perfumes obtained by solvents, distilled water, and other things, a special department being devoted to raw materials of French origin, and another section to raw or prepared imported from abroad. Then come the machinery and the appliances that are used in the distilling of perfumery. Here are the crushing and pounding machines, the appliances for infusion, the presses, pomatum and soap mixers, pestles and mortars, and many curious but useful vessels.

Last come the products of these plants and materials in the shape of soaps, toilet waters, scented oils, pomatums, scents, sachets, extracts and perfumes, scented powders, dentifrices, toilet vinegars, hair powders, cosmetics and hair dyes.

To the left of this display of perfumery is a section devoted to the appliances and processes used in sewing and in making wearing apparel. It begins with a display of common implements of sewing and needle work, and machines for cutting stuffs, skins and leather, and those for sewing, stitching, seaming, and embroidery. Then we find machines for making buttonholes, ingenious ones for sewing gloves, for plaited straw for hats, for leather sewing and boot and shoe making. There is an exhibit of flat irons and stands, of busts and manikins for trying on clothes, and machines for preparing separate parts of boots and shoes, and for sewing upper-leathers and soles, for pegging, screwing and nailing boots and shoes, and the exhibit winds up with machines for making hats of straw, felt, and other material.

Proceeding upstairs, one comes to Class 82, which is that of woollen yarns and fabrics. Here are shown combed wool and wool yarns, carded wool, ravelled, unbleached or dyed and carded wool yarn, and the clothes made of combed or carded wool.. There are fabrics for ladies' mantles and costumes, dress materials in combed or carded wool, in wool mixed with cotton or silk. There are muslins, Scotch tweeds, merinos, China silks, serges and fabrics of carded wool, unmilled or slightly milled, flannels, tartans and molletons. There are knitted stuffs in combed or carded wool, shawls of wool, some pure, some mixed, lovely Cashmere shawls, then ribbons and braids of wool, these also pure and mixed with cotton or flax, silk or floss silk. There are hair fabrics, pure or mixed, marvellous blankets and felts of wool or hair for carpets, hats, boots and shoes.

Upstairs too is found Class 80, consisting of cotton threads and fabrics. The visitor will find prepared and spun cotton, and cotton fabrics, pure, mixed, plain, figured, unbleached, dyed or printed, cotton velvet, velveteen, cotton tapes and ribbons, and a great collection of counterpanes; and naturally Great Britain, the greatest manufacturing country of the world, shows up to great advantage in this section of the Exhibition of which we have been writing. The British firms that exhibit are numbered by the dozens.

Quitting this building and crossing the Champ de Mars, the visitor comes to the great building to the west of the Eiffel Tower. Beginning at the end of this nearest to the river, he comes upon that section of the Exposition allocated to the musical instruments. Here those interested in sweet sounds and harmony, and the manufacture of appliances for producing these will find himself in his element. There are wind instruments in brass and wood, stringed instruments, pianos, metal wind instruments, both plain and with lengthening pieces, slides, pistons, keys or reeds; other wind instruments with keyboards, such as organs and accordions, and stringed instruments without keyboards, others with keyboards, such as pianos, and instruments played by percussion or friction, such as drums and cymbals, automatic instruments, the much-abused but ubiquitous barrel organ is shown in all its glory; there are bird organs and musical boxes. There are separate parts of musical instruments and orchestral appliances. There are strings for musical instruments and an edifying exhibit of primitive and crude instruments.

Next to this is Class 15, consisting of mathematical and scientific instruments, and ending up with coins and medals. The apparatus and instruments for practical geometry, land surveying, topography and geodesy are all here. There are compasses innumerable, calculating machines, levels, barometers, and such like indicators of one thing or another. Here too are apparatus and instruments for measuring. Here are micrometer screws, dividing machines, sensitive scales for scientific purposes, and the ordinary optical instruments, astronomical, physical, and meteorological instruments, apparatus applicable for use in laboratories and observatories. There are weights and measures of the different countries.

Next comes the plant for manufacturing coins and medals. This part of the Exhibition begins with appliances weighing metal, testing the standard of alloys, casting, tapping, rolling, stamping out, milling, washing, verifying the weight of coins, striking and checking them before delivery, also the plant for making stamps and dies. Coins and medals are shown in great variety, and there are many works on coinage dealing with the economical, statistical and other points of view.

Next to these come books, musical publications, bookbinding, newspapers and posters. There are new books and new editions of books already published, collections of works forming special libraries, reviews and other periodicals, newspapers in many languages, and posters. There are drawings, atlases, albums, and special care has been paid in gathering together a representative list of musical publications. The appliances, processes and products of stitching books and bookbinding are here shown.

Adjoining the book department comes that devoted to theatrical appliances and plant. Those interested in the playhouse can here see the interior fittings of theatres, many kinds of stage furniture and appointments, the best arrangements for preventing and extinguishing fires; everything necessary for a well-found stage is shown here, iron curtains or fire screens, gauzes, nets, colours, brushes and palettes for painting scenery, cordage, special iron work, electrical appliances, candelabra, coloured screens, apparatus for simulating flames, smoke, lightning, fireworks, limelight projections, even ghosts and phosphorescence. One will find by searching this department that a great deal of machinery is needed for the proper running of a stage, for there are on exhibition many winches, drums, travelling platforms, trollies, trapdoors, counterweights and flies. Special stuffs for costumes are also shown, and the printing on these stuffs, the armour and jewellery that makes such a brilliant display when the footlights shine upon them. The foot gear, dancing shoes, the wigs, false beards, the paints for making up all are here to be examined at their best. Here too are the properties for the reproduction of various phenomena, such as thunder, hail, wind, snow, discharge of musketry, and even furniture made in perspective.

Next to the theatre comes the printing press, the machinery and apparatus used in typography, lithography, copperplate printing, autography, copper engraving, zincography, and all the many other processes is shown. And there is a comprehensive display of plant, apparatus, and products of type foundries and stereotype and that sort of thing. In the department allocated to the machines for setting up and for sorting type, the Linotype has a splendid display of its wonderful machine. Next to this comes the special plant for printing banknotes and postage stamps. Then there are writing machines, and specimens in black and in colour of typography, lithography, copper-plate printing, and other processes. Here too are included specimens of engravings and drawings obtained, reproduced, enlarged, or reduced by mechanical or by photographic processes.

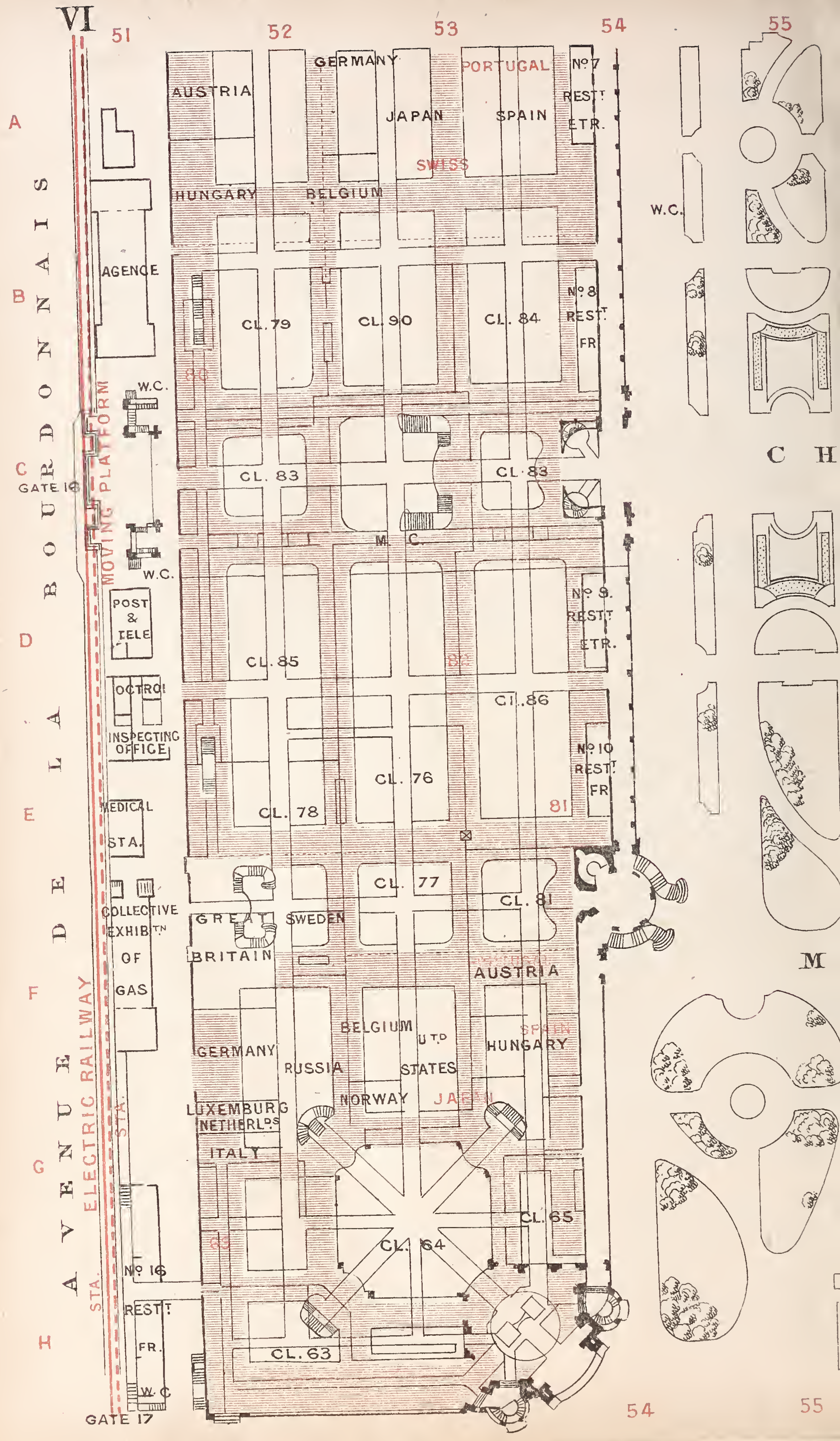
Passing on, Class 4 in reached. This deals with the special teaching of Fine Art, including music in schools, colleges and institutes. It begins with the legislation, organisation and general statistics of such schools, and plans and models of buildings most suitable, and the arrangements and fittings of such institutions are here given. The furniture, teaching appliances, the rules and regulations of schools, the plans of studies, curriculums, and the methods are all clearly shown to those interested in teaching.

Passing on, the visitor steps from the atmosphere of the school into that of the carriages and wheelwright shops. This section of the Exhibition is allocated to vehicles, other than those used on railways. There is a display of private and State carriages, sledges, Sedan chairs, public carriages, ambulance vans, and carriages for invalids and children ; carts of all descriptions, vans and drays drawn by horses, and vehicles propelled by mechanical means. Here too are cycles, and alongside them parts of carriages, materials and inventions connected with carriage building, wheelwrights' work and cycle manufacture.

Adjoining this is the saddlery and harness department, consisting of a display of riding and stable harness for horses and for draught animals. State harness, saddles, bridles, harness for public service and carriage harness, and all parts of harness and materials and inventions connected with saddlery and harness making.

The next Class that one comes to is that headed "Materials, plant and processes related to civil engineering." First one comes upon building materials other than timber or materials extracted from quarries, metal and ceramic products. Here it is lime, cement, plaster, artificial stone and so forth that one sees, together with plant and method used in the production of these materials. Then there follows the method used for testing building materials, the working up and preparing of building materials, the implements and methods used by stone dressers, stone cutters, masons, carpenters, slaters, joiners, locksmiths, plumbers, glaziers and painters, and also those employed for earth work, the hand tools that are needed, excavators, dredgers, barrows, tip waggons, contractors' rails, hand cars and trucks; then there is plant, other pumps, and methods used in making foundations, such as pile drivers, piling, screw piles, pneumatic apparatus and the plant and method used for the transport and distribution of materials, as well as maintenance of roads, streets and public promenades. Here one examines the plant used for coast illumination, for buoys and beacons, and that employed for water supply and gas supply, and the processes adopted in pneumatic telegraphy. Following on we come to railway and tramway plant; one can examine the permanent ways and signals, the formation of lines, the ballast used, the sleepers, rails, chairs, fish plates and other parts of the permanent way, points and crossings, and even traversers and turntables. Here are weighbridges, gauges and other accessories, fixed signals, systems and appliances for securing the safety of traffic, for water supply, for snow shedding, and here too are the platelayers' tools.

Locomotives and rolling stock come next; passenger carriages are shown, vans and goods waggons, as well as separate parts of the same, continuous brakes, train signalling apparatus, engine sheds, engine works and repairing shops, snow ploughs, measuring instruments, dynamometers, and various kinds of indicators. Relating to traffic, there are the train diagrams, schemes for the distribution of rolling stock, plans for cleaning and disinfecting. There are movable signals and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W.C.
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Nº 8
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CL. 83
CL. 83
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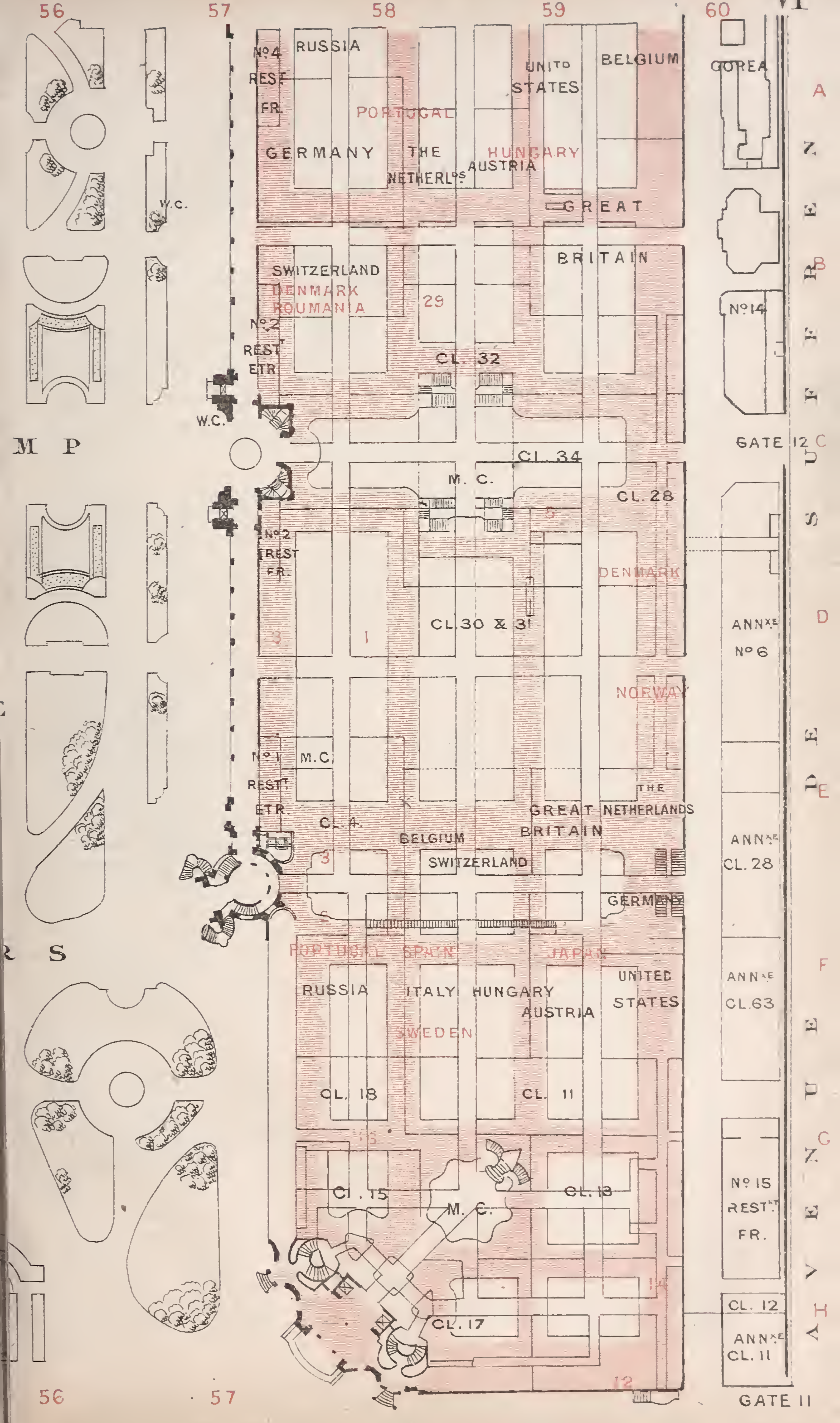
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No 15 RESTNT FR.
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AVENUE DE SUFFREN
GATE 11

other means adopted for securing the safety of traffic, tickets, ticket cases, notices, lists of fares, and all that, including goods traffic, goods rates, and methods and plant adopted for storing and handling goods.

Then comes a variety of systems of railways; these include rack, cable, overhead, and sliding railways, and movable platforms, and motor or other forms of engine used for propulsion, as well as the rolling stock connected with all this.

The next section is devoted to tramways, and in this are shown various types of permanent way used on different kinds of roads, the points and crossings necessary, the turntables, the turning loops and triangles, and implements used for track laying and cleaning. With the rolling stock for tramways is also shown the break gear, and the plant used for storing power, whether it be hot water, compressed air, electricity or what not. The transport of ships over railways is also shown, and to end up with, statistics and special maps and works relating to railways are to be seen.

Continuing on in the building to the right of the Champ de Mars, the visitor first meets with Group 14, which is given up to the Chemical Industries.

Class 87 is allocated to Applied Chemistry and Pharmacy. At the beginning he will find laboratory apparatus and utensils, enamellers' lamps, blow pipes, drying ovens, filters, and electric furnaces. Then there are instruments and appliances used for testing commercial products. Here too are the plant, appliances, and processes used in the production by electrolysis of hydrogen, peroxide, chlorine, hypochlorites, chlorides, soda, and various chemicals.

Following these are the appliances employed in the manufacture of vegetable essences, varnishes, commercial India rubber, and its substitutes, and gutta percha articles.

Then there are the appliances and processes employed in treating mineral substances used for lighting, heating, or lubricating. Coal, petroleum, ozokerite, etc., are found here, and further on the appliances and processes used in the chemical or electrical treatment of waste water for factories, for purifying them with a view to the return to the river, and the plant used in charcoal works, and in the manufacture of charcoal derivatives, methylated spirit, acetic acid, and tar, those processes employed for pressing and liquifying gases for manufacturing artificial textile fabrics, and those used in the manufacture of pharmaceutical products.

Section 2 of this class is devoted to acids, alkalis, and all kinds of salts, refined sulphur, phosphorus, hydrogen peroxide, and ozone, sea salt, and products and the treatment of natural or mineral waters, together with the various products of chemical industries, such as wax and fatty substances, soap, candles, glycerine, resin, tar and its derivatives, glue, and gelatine, spirit varnish, various glazes, printing inks, and blacking.

Next follow commercial india rubber, dyes and pigments, by-products obtained from the treatment of mineral substances used for lighting, heating, or lubricating, petroleum and paraffin can be seen. The products of charcoal, burning diluted alcohols for industrial purposes, liquefied gases, artificial textile fabrics, and simple and compound drugs.

Class 88 deals with the manufacture of paper. The exhibition begins with a collection of raw materials employed in the manufacture of paper and cardboard. Then come the plant and processes used in the manufacture of hand-made paper. The apparatus and process for making the pulp, for sorting, picking, cutting, straining, washing, ley-washing, rinsing and draining, bleaching and wasting, refining, size colouring, and loading of rag pulp. Following this comes straw pulp, and Esparto pulp, sorting, crushing, chopping, pounding, washing and draining. Then comes mechanical wood pulp, and the grinding, purifying, and drying of this is shown next chemical wood pulp and semi-chemical pulp.

Then there are machines and endless paper cutting apparatus, glazing rolls and calendars, appliances and processes used in the manufacture of special papers, and those used in the manufacture of cardboard.

Extra fine and fancy paper have a section to themselves. Here are shown China paper, Japan paper (real and imitation), vellum, and paper made with enamelled size. Following this, paper for newspapers and posters, drawing and hot pressed paper, photographic paper, and map paper, together with paper for bank notes.

Parchment has an exhibit to itself, and close by is paper for stationery, cigarette paper, tissue paper, paper for confectionery, and for artificial flowers. Following this come packing and wrapper paper waxed and oiled, and that used in machine construction, as well as for fireworks and the manufacture of explosives. Then there are telegraph papers, papier maché, compressed paper, millboard and imitation lacquer, enamelled and bituminous paper, parchment paper for envelopes, and filter paper for use in breweries.

"Finis" to this class is written on cardboard.

Leather and Skins.—These are exhibited next to paper. They begin with skins with the hair on, tannins and tannin extracts, and raw materials employed in the preparation of leather and skins. Then come the plant and processes used in tanning, currying, tawing, Chamois dressing, and generally in all operations connected with the preparation of leathers and skins. This is followed by tanned and curried leather, patent leather, Morocco, tawed chamois leather, and parchment

The class next to this is No. 91, and consists of tobacco and matches. Here the cultivation of the plant and raw material is shown, the manufacturing appliances, tobacco factories and buildings, laboratory appliances, and manufactured products. Regarding the matches one can see the raw material, match factories and buildings, the laboratory appliances, and manufactured products.

Passing into the Mechanical Engineering Department, the visitor first comes to Class 20, which deals with various kinds of engines. These are worked by hot air, gas, petroleum, compressed or rarefied air, ammonia, and carbolic acid gas, and the parts and fittings of such engines are shown. Then there are hydraulic motors, wheels, turbines, water pressure engines, and following these come the windmills, and wind motors, and gins, tumblers, springs, counter weights, and pedal motors.

Class 22 deals with metal working plant, and here are shown machines worked by blow compression or tension, steam hammers, forging presses and machines, cutting, shearing, punching and stamping machines, rollers, draw benches, wire drawing machines and presses, and machines for stretching and flanging, bending, welding, rivetting, cutting, folding, rolling, moulding, etc.

Here too are shown the methods of heating, annealing, tempering, cementing, welding, and brazing, that are in ordinary use. There are also handles, vices, hammers, shears, punches, dies, etc. Next are machines with cutting tools, lathes, drilling, rimming, screw cutting, and milling machines, saws for cutting metal, planing, slotting, grooving, and special tools for the above machines. There are grinding, polishing, and sharpening machines, also machine and grindstone accessories. The vices, files, taps, and dies, and screw plates of tools for hand-work are exhibited, and the methods and tools used in setting out work, adjusting, checking, and testing. There are surface plates making gauges, straight-edges, squares and compasses, scribbling blocks, standard measuring gauges, and instruments for testing shape and dimensions.

The second section of this class is devoted to woodworking plant. Saws for cutting trees, cutting up timber with the bark on, and for shaping. Machines for squaring timber, planing machines, lathes, drilling and slotting machines. Machines for making tongues and grooves, tenons and mortices, shaping and cutting machines, and all sorts of machines and hand tools specially used in woodwork. To finish up, there are the machine tools which do not come under any special classification.

Class 19 will be found next, and in it steam engines have their turn. Here are the fire boxes, furnaces, and boiler chimneys, stationary, semi-portable or portable boilers, packing, and boiler fittings, feed apparatus, steam jacketting, anti-fouling compounds, water softenings, feed water heaters, steam driers, and super heaters. Then there are steel piping joints, cocks, and stationary semi-portable, and portable engines, valve gears, condensers, regulators, and governors' lubricators, and fittings. There are engines set in motion by evaporation other than that of water, and methods of testing and examining steam apparatus.

Class 21 is that of general machinery. It begins with an apparatus for the transmission of power, such as shafting, plumbers' blocks, guides, and slides, and jointing systems, gearing clutches, pawls. There are pulleys, belting, and cables for transmission of power, governors and speed regulators, lubricators, engine counters, recorders, speed indicators, and pressure gauges, machines for testing material, apparatus for measuring fluids and gases, cranes and lifts for moving loads, hand or steam pumps, Norias hydraulic rams, and such like. Fire engines and apparatus used by firemen, hydraulic presses and accumulators, water pipes and accessories, air compressors, ventilators, power transmission and distribution at a distance by means of water, steam, air, or vacuum, and apparatus for preventing accidents by machinery.

ENTRANCE NO. 15.—THE BIG CHIMNEY.

Then we pass on to Class 23, which is that of the mechanical production and utilisation of electricity. This begins with an apparatus for general electrical currents, continuous currents, alternating currents, and polyphase current dynamos.

The application of electricity to transport purposes is shown in electric locomotives and tramways, and the application of electricity to mechanical processes in elevators, winzes, and cranes, capstans, etc., together with safety appliances, regulators, etc.

From electricity the visitor steps to the group devoted to food products. This begins with the appliances and processes used in the manufacture of food products. Flour mills have the first place, and factories for the production of glucose and starch follow. Then there are Italian paste factories, bakeries, and the mechanical appliances for kneading and baking, biscuit factories, pastry works, and the manufacture and preservation of ice, also the appliances and methods used for preserving fresh meat, game, and fish. Following this come the works for canning meat, fish, vegetables, and fruit. Sugar manufactories and refineries, chocolate, cocoa, and confectionery works. Preparation of ice and iced drinks, the coffee berry, and coffee roasting. There are vinegar works, commercial distilleries, breweries, aërated water manufactories, and various industries for the production of food and food stuffs.

In the next, Class 57, will be found bread and pastry. Here are various breads, with or without yeast, fancy bread, and bread in moulds. Compressed bread for travellers and for military campaigns, sea biscuits, pastry, etc., various kinds special to each country, ginger bread, and cakes for keeping.

After this comes Class 59, and in it can be seen sugar for household and other purposes, glucose, chocolate, sugar almonds, bonbons, fondants, nougat angelica, aniseed, preserves and jellies, fruit comfits, and fruits preserved in brandy.

Then coffee, tea, and aromatic beverages, chicory, and sweet acorn coffee occupy extensive space. Following these, vinegar, table salt, spices such as pepper, cinnamon, allspice, cayenne pepper, and so forth, and then mixed condiments and relishes, mustard, curries, and all kinds of sauces are to be seen.

Class 61 includes syrups and sweet liqueurs, anisette, curacao, cassis, and chartreuse, absinthe, bitters, vermouth, and byrrh. Then there are the commercial alcohols, alcohol made from beetroot, molasses, and potatoes, gin, rum kirsch, etc.

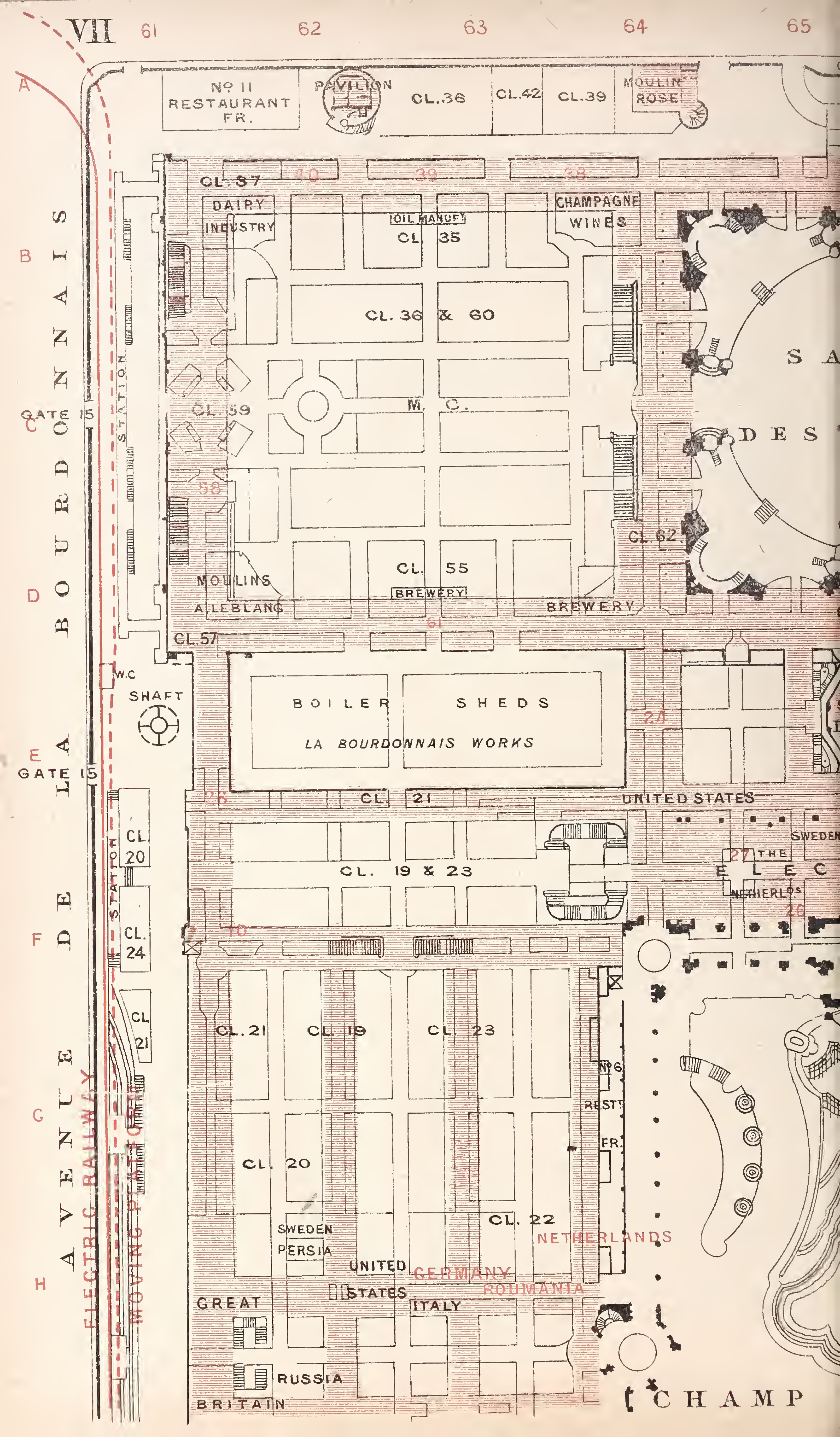
Various beverages have a class to themselves—No. 62. They include cider and perry, beer and other beverages made from cereals, fermented drinks of all kinds, and aërated waters.

From the brewery the visitor passes on to the farm—Class 35—which is allocated to implements and processes used in rural cultivation. Here are specimens of various types or rural cultivation, plans and models of farm buildings, general arrangements, sheep runs and sheep folds, cattle sheds, pig styes, paddocks for breeding purposes, special arrangements for breeding and fattening cattle, and the utensils for stables, sheds, kennels, etc.

In this class too are found the appliances and methods used in veterinary surgery, agricultural engineering, the draining of bogs, fens, and marshes, and appliances used in husbandry, dealing with the planting and clearing of land, and harvesting, as also in the preparation and preservation of crops and animal products. There are agricultural implements drawn by animals, or propelled by wind, water, steam, and electricity. Locomotive agricultural machines and horse gears, windmills, pumps, and plant for road transport, corn lofts, and silos, and apparatus for preparing food for animals.

The preparation and preservation of manures are shown, as are also artificial manures, and the way to utilise sewage.

Following this class comes appliances and processes used in vine culture. Here are the types of buildings, tools for staving in, vine ploughs, hoes, and implements used for grafting, pruning, and gathering. A collection of roots is shown, also the appliances used in vintage, in wine sheds, in cellars, grape pickers, wine pressers, and the system of wine making, together with the methods, appliances, and materials used for preserving wine. Diseases of the vine, and the best methods of checking them, are also dealt with.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CL. 39
MOULIN ROSE
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OIL MANUF.
CL. 35
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CL. 36 & 60
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CL. 62
CL. 55
BREWERY
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NETHERLDS
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CL 21
CL. 21
CL. 19
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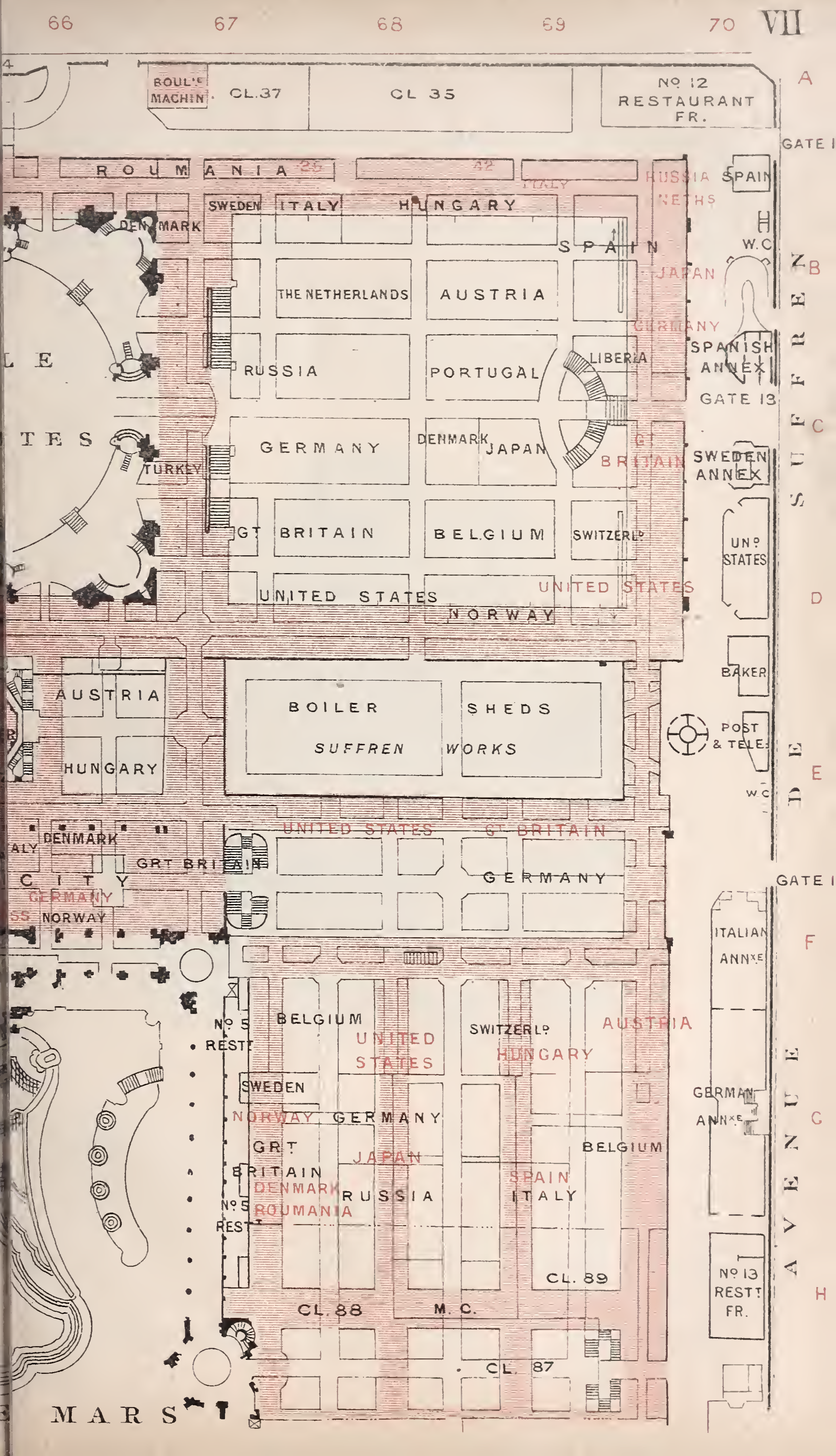
ELECTRIC RAILWAY
MOVING PLATFORM
CL. 20
SWEDEN
PERSIA
CL. 22
NETHERLANDS
UNITED STATES
GERMANY
ROUMANIA
ITALY
GREAT BRITAIN
RUSSIA
CHAMP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BOUL'E MACHIN
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CL 35
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CL. 89
Nº 13 RESTT FR.
CL. 88
M. C.
CL. 87
LE
TES
MARS
AVENUE DE SUFFREN

Class 37 is devoted to appliances and processes used in agricultural industry. There are examples of agricultural factories connected with farming, dairies, creameries, and butter factories, cheese dairies, agricultural distilleries, and starch factories, margerine factories, and those for the preparation of agricultural textile fabrics. Hen roosts, dove cots, and pheasant walks, and appliances for artificial hatching and fattening of poultry may also be seen.

Class 60 deals with wines and wine brandies.

Class 42 is a peculiarly interesting exhibit—that of useful insects and other products, also destructive insects and parasitic plants. Here are to be found systematic collections of both useful and destructive insects, bees, silk worms, and other bombycidæ, and cochineal insects. There are appliances for rearing and keeping bees and silk worms, also an exhibiton of honey, wax, and cocoons, together with appliances and processes for destroying noxious and injurious insects.

BOUQUET DE CHAMPAGNE.

Class 39 consists of vegetable food products. There may be seen wheat, rye, barley, rice, maize, millet, and other cereals in sheaves or in grain. Broad beans, peas, lentils, potatoes, beetroot, carrots, turnips, and mangold wurzels. Saccharine plants such as beetroots, sugar cane, sorghum, and various plants, including coffee and cocoa, olives and edible vegetable oils, forage, stored or in silos, and fodder for cattle.

Proceeding upstairs, the visitor begins with Class 26, which he will find is given up to telegraph instruments, transmitters and receivers, multiplex instruments, and various apparatus such as relays, repeaters, and lightning conductors. Then there are speaking instruments, telephones, microphones, telephone exchanges, bells, alarms, and sounders. Simultaneous telegraphy and telephony is illustrated, also the wiring for telegraphs and telephones, including overhead wires, subterranean and submarine cables.

In connection with this is Class 24, where are to be seen batteries, accumulators, plants, and processes generally used in electric plating and electro-typing. The production and refining of metals or alloys, and the application of electro-chemistry to commercial purposes. The treatment of sewage water, sugar refining, manufacture of soda, chlorine, and chlorate of potassium.

In Class 56 he finds samples of flour made from cereals, grain without husks and groats, potato starch, rice, flour, lentil, and broad bean flour, and gluten. Here too is tàpioca, sago, arrowroot, and various starches, Italian pastes, semolina, vermicelli, macaroni, infants' food, and home-made pastes.

Class 58 is devoted to meat preserved by freezing, or by any other method, meat and soup tablets, meat extracts, pork butchers' meat, frozen fish, salt fish, and fish preserved in barrels as well as in oils. Preserved tunny, sardines, anchovies, preserved lobsters, and oysters. Vegetables preserved by various methods, and dried and preserved plums, figs, raisins, dates, and fruit preserved without sugar.

Class 41, which adjoins, consists of non-edible agricultural products. Here are the textile plants such as cotton, flax, and hemp in sheaves, ramie, textile vegetable fibres of all kinds. There are plants producing oil in stalk or in seed, non-edible fats and oils, and plants containing tannin, as well as those used for dyeing purposes. Tobacco in stock, in leaf, and in seed. Hops, plants, and seeds from natural or artificial meadows. Raw wool, washed or unwashed, bristles and hair of domestic animals, and feathers.

Adjoining are animal food products. Edible fatty substances, and oils, fresh or preserved milk, fresh salt butter, cheese and eggs.

Class 38 is taken up with the theory of agriculture. Studies relating to soil and to water from an agricultural point of view are shown. Agrological charts, climatic charts, and others, are here displayed, together with returns of cultivated lands, census of live stock, and the progress accomplished, especially since 1889, in agriculture, and its successive changes. Statements of fluctuation in rent, price of land, labour, live stock, crops, and animal products. Institutions and societies for the promotion and advancement of agriculture, agricultural experimental stations and laboratories, with plans, models, organization, staff, implements, accounts, work. Agricultural and popular banks, charitable and benevolent institutions, and agricultural insurance offices, together with books, papers, statistics, diagrams, and periodical publications.

Public charitable relief is dealt with in Class 112. It will be found on this floor. It commences with documentary information such as legislation relating to charitable relief, and practical organisation. The methods of relief in actual operation by the State, by district councils, hundreds, baronies, and municipalities, by unions, and by private organisation, and the ways and means of financing these.

In Section 2 the protection of children is considered. First there is the general organisation for the protection of children, beginning with assistance to mothers before the birth of the child, mothers' refuges, mothers' mutual aid societies, lying-in hospitals, and convalescent homes. Then come the crèches, and institutions for babies, for foundlings, and orphans, also for destitute and morally abandoned children, and help for sick or crippled children.

The third section is given up to the relief of adults, mutual aid is considered, also charitable organisations, relief by providing work, night shelters, soup kitchens, and mendicity societies. Relief for the sick poor, out-door relief, free dispensaries and hospitals, together with the relief of the aged, family assistance, workhouses, cottage homes, and alms houses. Then come departments connected with the treatment of lunatics; after that the institutions for the blind, and how to assist them by work and other means; institutions for the deaf and dumb; legislation and practical organisation of pawnbrokers.

This class finishes with schools for training and nursing, and hospital attendants.

Upstairs, and beginning again with the north end of the great building, the visitor finds himself among the materials and appliances used in photography. Here are the raw materials and the photographic instruments, the appliances and apparatus for photographic studios. Next on the programme is positive and negative photography on glass, paper, wood, stuffs, and enamel; then photo-engraving, photo-lithography, stereoscopic proofs, photographic enlargements and reductions, and, strangest of all, colour photography. Here are shown the natural and artificial colour printing, and scientific and other applications of photography.

Following these is the room containing maps and apparatus for geography, cosmography, and topography, geographical, geological, hydrographical charts and atlases, all kinds of physical and topographical maps, flat or in relief. Here too are the terrestrial globes, and statistical works and tables, including nautical almanacs for the use of astronomers and sailors.

Continuing south is the department devoted to Medicine and Surgery. This contains appliances, instruments and apparatus for anatomical, histological and bacteriological work; also normal and pathological models, histological and bacteriological preparations, apparatus for sterilising and for disinfecting instruments and other appliances for dressing wounds, together with instruments for general and special medical research and surgery. Here too are the appliances for dressing wounds, the apparatus for plastic and mechanical prostheses, orthopædic apparatus, apparatus for hernia, apparatus for medical gymnastics, appliances and instruments for special therapeutics. There is a special set of instruments used in the practice of dentistry, and another for those for the use of the afflicted and lunatic. There are chests and cases of instruments and medicines for the use of military and naval surgeons, appliances for rendering aid to the wounded on battlefields, and restoring persons apparently drowned, and even veterinary surgery is by no means forgotten.

Next to this medical and surgery Class, Secondary Education is given space, and, as ever, this exhibition starts at the very beginning by giving the legislation, organisation, and general statistics, and following on with plans and models of buildings, their arrangements and fittings, the school furniture and educational appliances needed. Then are shown the methods adopted for selecting, appointing, and improving the efficiency of the teaching staff, and the rules and regulations of schools, plans of studies, curriculums, arrangements of hours of work, and hints in regard to special classes, such as singing, gymnastics, fencing and school games.

Adjoining this is the section devoted to Higher Education, and what has been said of the previous Class applies equally to this. There is a special section in this class which deals with important scientific institutions and various learned societies, their papers and publications, and scientific expeditions; next is the training of children, the primary education and teaching of adults, and following comes the special teaching of fine art, including music.

Class 29 includes models, plans and drawings relating to public works. It deals with roads and other public lines of communication on land, bridges and viaducts, inland navigation, the conservancy of rivers, canal construction, with its dams, locks, lifts, fixed and drawbridges, reservoirs, and feeders, pumping stations, mechanical warping and towing, plants and implements used at river ports. Then under the head of seaports are shown the general arrangements, jetties, basins, locks and swing bridges, the plant and implements (not included under shipping) in use at seaports, maritime canals, coast illumination, buoys and beacons, and works for protection against flooding by river or sea. Here too railways are treated as regards plan and profile of the line, and engineering works, and the works in connection with the construction and maintenance of roads and streets in towns. Water supply is also touched upon, and sanitary engineering and gas lighting of cities, together with network of piping for telegraph systems worked by compressed air. One can find plenty of statistical information, and many special maps and books relating to public works, and more particularly works relating to the International Exhibition of 1900.

Crossing the Seine at the Pont d'Iena the visitor comes to the last section of this great Exposition. This section, it will be seen, is almost entirely devoted to Colonial exhibits.

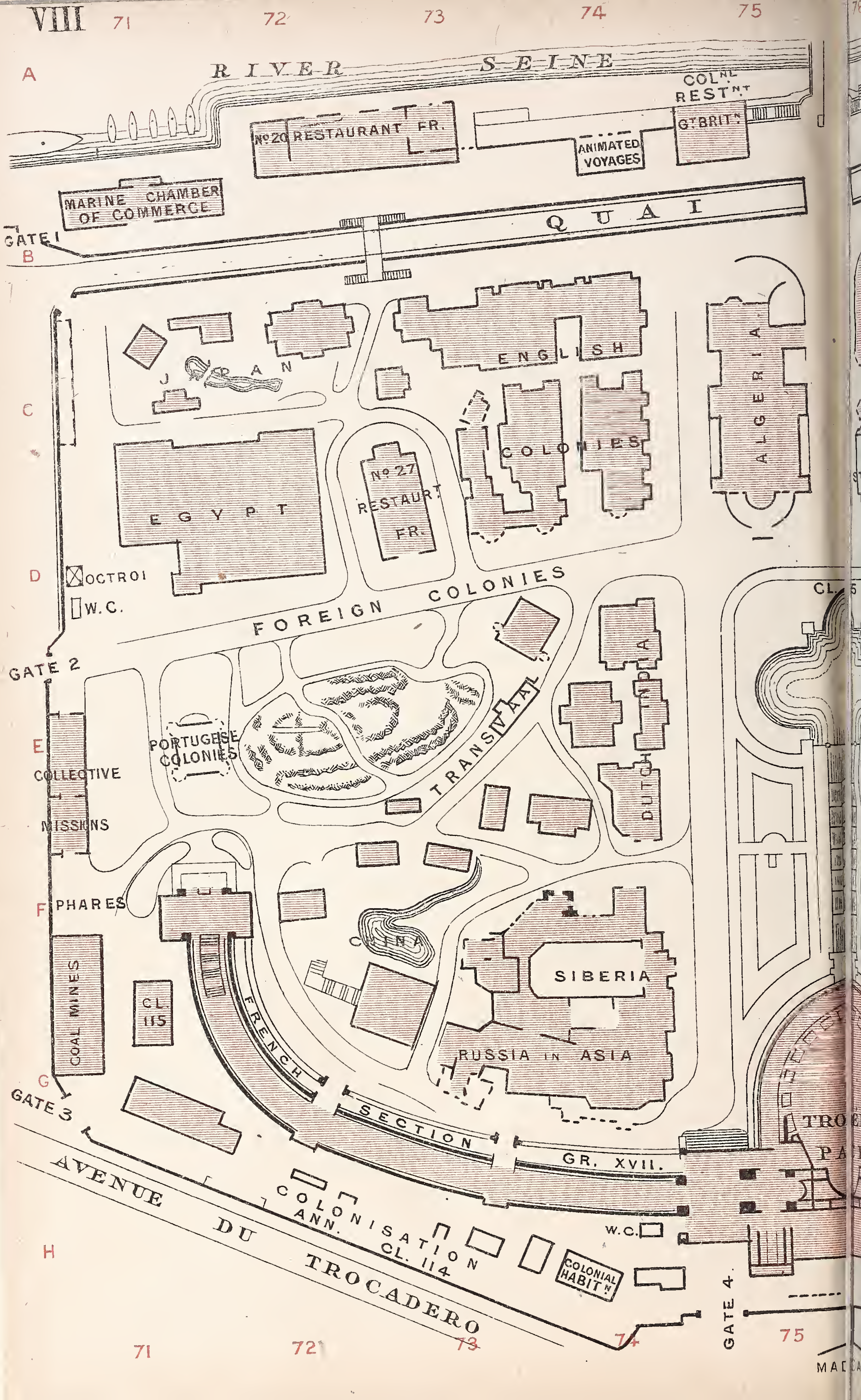
In buildings to the east of the Trocadero will be found a group of exhibits relating to colonization.

Class 131 consists of exhibits coming under this heading, and will be found in the special building set apart for colonies and protectorates, This, under the general heading of methods of colonisation is divided into two sections. The first consists of political, administrative, industrial, agricultural, and commercial information, and statistics relating to the colonies. Information relating to protection, imports, and exports, the tenure of landed property in various colonies, and the means of transfer adopted, the employment of native, emigrant, and convict labour in the colonies, and the societies for encouraging colonisation.

Section 2 treats of the teaching of natives, with a view to spreading amongst them the knowledge possessed by civilised nations, and to facilitate commercial relations; also teaching in colonies with a view to developing colonial resources, and for promoting public welfare. Then there are colonial expeditions, explorations, commercial and scientific collections formed by travellers.

In a building to itself will be found Class 114, consisting of colonial buildings and appliances. Here are the buildings, materials, and special systems of construction adopted by the colonies. Here too are native dwellings, palaces, public and religious buildings, bazaars, huts, and thatched huts, commercial buildings, warehouses, godowns, colonists' dwellings, bungalows, houses, hotels, and sanatoriums, and defensive buildings and enclosures. Implements and means of transport by land and water, specially adapted for countries which are being opened up, are also shown.

Class 115 consists of special products suitable for export to colonies. Here is merchandise specially apapted for consumption in countries which are being opened up, goods for export, barter, and exchange, and the means of handling this class of merchandise, also methods for the consignment of goods. Weights, measures, and monetary systems in use in the colonies can be studied, together with information concerning the value of exchanges.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A
RIVER SEINE
COLNL. RESTNT. GT. BRITN.
No. 20 RESTAURANT FR.
ANIMATED VOYAGES
MARINE CHAMBER OF COMMERCE
QUAI
GATE 1
B
JAPAN
ENGLISH
C
COLONIES
ALGERIA
No. 27 RESTAURT. FR.
EGYPT
D
OCTROI
W.C.
FOREIGN COLONIES
CL. 5
GATE 2
INDIA
TRANSVAAL
E
PORTUGESE COLONIES
COLLECTIVE MISSIONS
DUTCH
F
PHARES
CHINA
SIBERIA
COAL MINES
CL. 115
FRENCH SECTION GR. XVII.
RUSSIA IN ASIA
G
GATE 3
TRO
PA
AVENUE DU TROCADERO
COLONISATION ANN. CL. 114
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GATE 4
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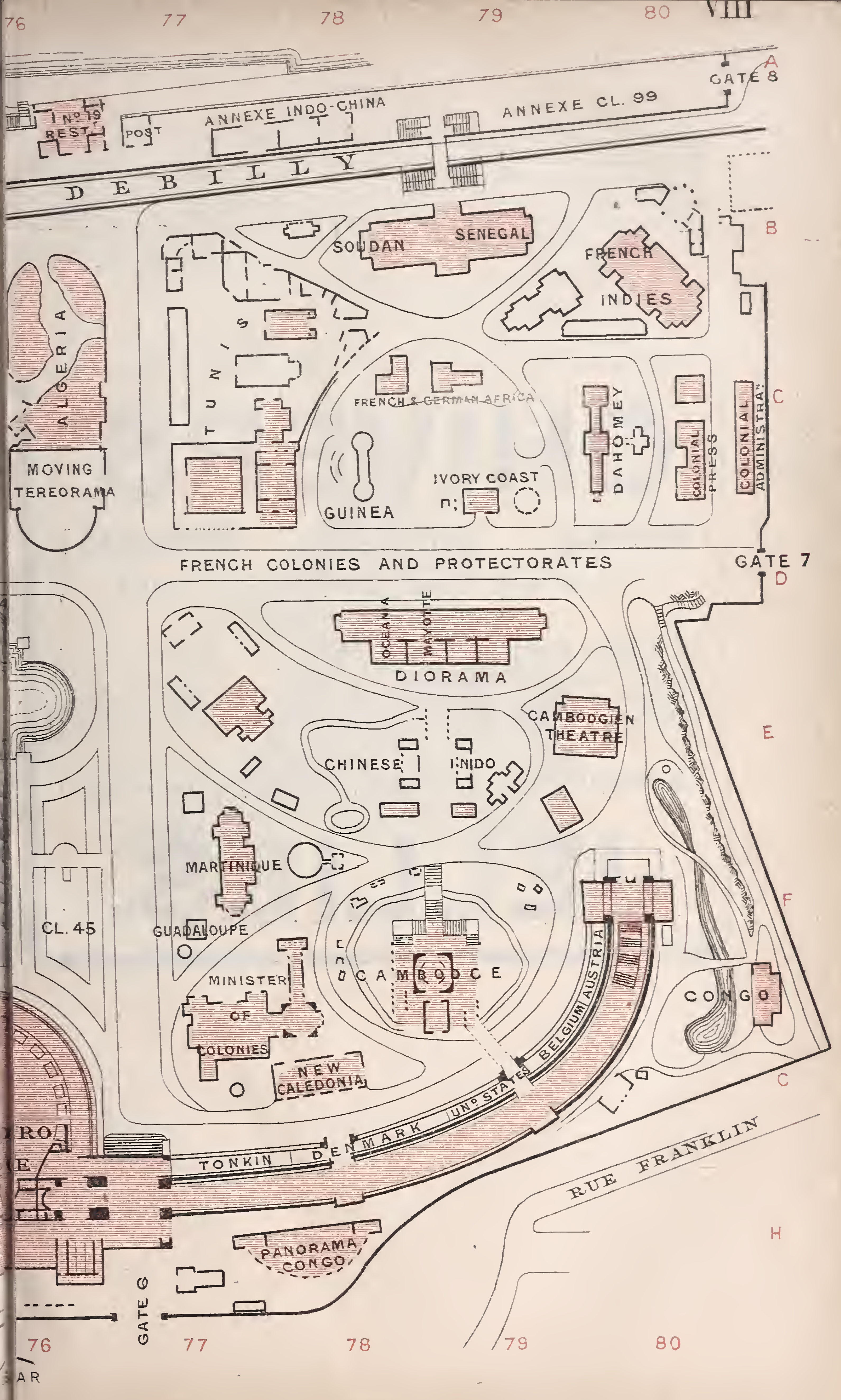VIII
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GATE 8
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No 19 REST
POST
ANNEXE INDO-CHINA
ANNEXE CL. 99
DEBILLY
SOUDAN
SENEGAL
FRENCH INDIES
TUNIS
ALGERIA
FRENCH & GERMAN AFRICA
DAHOMEY
COLONIAL PRESS
COLONIAL ADMINISTRA
MOVING TEREORAMA
GUINEA
IVORY COAST
FRENCH COLONIES AND PROTECTORATES
GATE 7
OCEANA
MAYOTTE
DIORAMA
CAMBODGIEN THEATRE
CHINESE
INDO
MARTINIQUE
CL. 45
GUADALOUPE
MINISTER OF COLONIES
CAMBODCE
AUSTRIA
BELGIUM
UNo STATES
CONGO
NEW CALEDONIA
DENMARK
TONKIN
RO
E
RUE FRANKLIN
PANORAMA CONGO
GATE 6
AR

CHIVERS'

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FLAVOURED WITH RIPE FRUIT JUICES.

DR. GORDON STABLES, R.N.: "No home is complete without these pure and excellent Jellies, which add to our health and luxury."

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S. CHIVERS & SONS, Histon, Cambridge.

JELLIES.

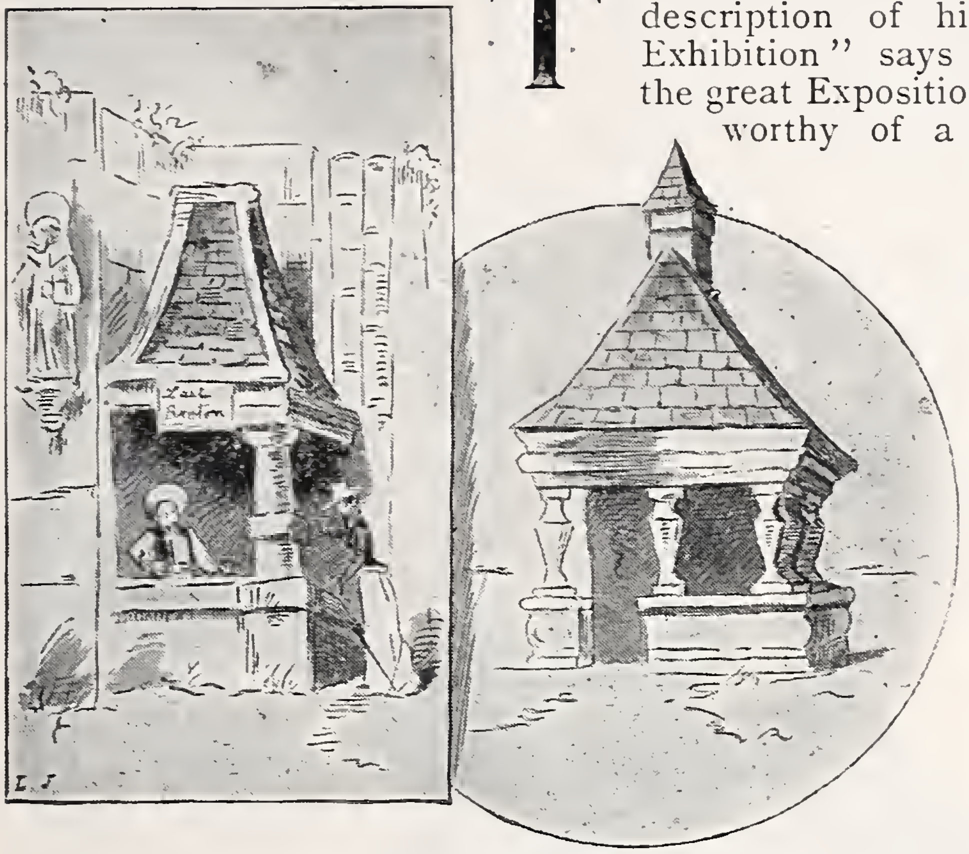
Here ends what may be called the technical tour of this most comprehensive, most marvellous Exhibition. As will have been noticed, the exhibits are so all-encompassing that it is possible in a Guide such as this only to mention the heads of the exhibits, but it is hoped that this article, with the plans that are interleaved, will enable every visitor to find quickly and without inconvenience that part of the Exhibition that peculiarly appeals to him.

A HUNGARIAN HORSEBREAKER.

TROCADERO AND NEIGHBOURING ATTRACTIONS.

THE SIDE SHOWS TO THE GREAT SHOW

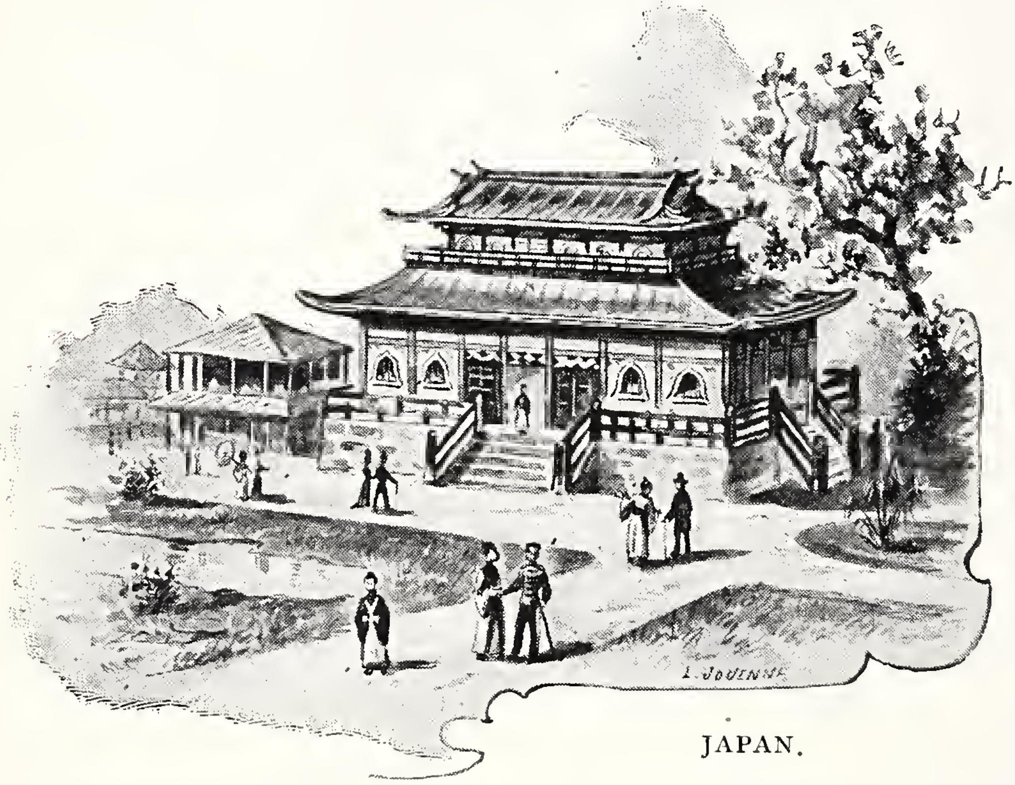
THE "Ordinary Anglo-Saxon" in his description of his "Through the Exhibition" says the side-shows of the great Exposition of 1900 are well worthy of a separate article. Verily, they are. In this article there will be no attempt to arrange the shows in any system, for the Exhibition authorities have not done that. The reader who wishes to find any one of the shows here described can easily do so by first consulting the plans and maps of the Exhibition.



BRITTANY DAIRY.

One of the most remarkable of these side-shows is the "Celestial Globe." This is a building on an immense scale, and is a conspicuous object from the Seine to the north bank for miles. Upon a terrace-like foundation that stands at a great height, is a sphere 145 feet in diameter. The exterior of this gigantic globe is decorated with astronomical and mythological figures, which make pleasing daylight decorations, but at night, are illuminated from the interior glow in gorgeous colours that can be seen from every part of the Exhibition grounds. Inside this globe are found electric lifts as well as a broad stairway that hoists or leads the visitor to a second sphere—one some 110 feet in diameter—which represents the centre of the planetary system. Here there is room for more than one hundred visitors at a time, and as they travel from west to east they behold the sun, moon, stars, and even the wandering comets, and in the centre of it all the earth revolving on its axis. The phenomena of the eclipses are visible, and it is said that all these celestial movements are accomplished with scientific precision. Indeed, a wonderful and unique side-show.

Another side-show, on the making of which it is said money has been spent like water, is that of the Palace of Costumes. At the end of the Rue de l'Université this splendid building with its gorgeous contents stands, and once inside, the visitor will behold, and can at his or her leisure examine the different styles of dress, from the fashionable attire of to-day to the styles in vogue in the most ancient days of France, and, moreover, these dresses are displayed with the correct surroundings belonging to each period. Down the centre of the building runs a broad hall-way, and on either sides are the multitude of salons, each devoted to a special epoch of dress. Many of the salons are truly wonderful. That one set aside for the period of Louis XV. will, without any doubt, attract great attention, as in it is depicted a custom as well as costumes quite unknown to the general public as having existed. To quote a press notice on this Palace of Costumes, "a lady in bed is robed most elaborately, prepared for her company, for these morning visites de cérémonie were a feature of the age. The practice was favoured by the famous Anne of Austria, who combined in herself the true Spanish indolence together with a violent temper. During her Regency her state-room was the scene of her Ministers' Conference, she from her bed directing the operations and machinations of Mazarin, Condé, de Retz and Turenne. Madame de Pompadour, favourite of Anne's great-great-grandson, continued the practice. The figure of the scene represented wears a white satin sortie de lit, richly embroidered, and her hair is elegantly arranged. Around her is grouped her audience, the ladies wearing, one a white-and-rose brocade silk, another a red brocade, while a third is in gold brocade. All the dresses are made with the Louis XV. corsage, with flat revers, showing an embroidered vest and 'deep-pointed basque.'" The above quotation will give an idea of the style of the exhibition in this palace. In the "basement" of the Palace there is a gorgeous "Byzantine Court," reached by descending a stair, and most of the material used in furnishing this was brought from Antioch. There is a christening scene of the year 1830 shown, also an "exact reproduction of the Palais Royal of the Second Empire in its palmy days," a reception scene of the days of Napoleon III., and, in fact, marvels "too numerous to mention." This "Palace of Costumes" is a side-show the like of which for educational value, as well as for general interest, is seldom met with.



JAPAN.

Perhaps the most widely heralded marvel of the Exhibition is the monstrous telescope. This instrument, which is to pay strict and particular attention to the moon, multiplies ten thousand times, and brings the moon almost within speaking distance. In the making of this telescope neither pains nor expense have been spared; it has been building for years, and on completion was found to have cost more than £60,000. In scheme as in size, it is altogether different from any other well-known telescope. It is built to remain stationary, having under it a massive foundation. As no one position taken up by the telescope would allow it to have the moon at all times "in its aim," a gigantic mirror of the clearest reflective power has been got into position, and can be moved at will so as to throw the reflected image of the moon upon the object lenses. Another novelty about this telescope is that the visitor who wishes to make himself familiar with the topography of the moon does not walk up and apply his eye to the "thin end" of the telescope, but need only sit down and gaze upon a gigantic screen, for, by an ingenious device, the multiplied moon is projected upon this screen. The tube of this wonderful telescope has a diameter of fifty-nine inches, and it weighs twenty-one tons. The mirror which catches the image of the moon for the telescope is close upon seven feet in diameter, and weighs, including the mounting, more than six tons. So much for the moon-multiplying telescope.

Among the most eccentric of the side-shows situated on the North bank of the Seine, is that of the everything, as it were, upside down. The building is "erected" standing on its roof, and windows, doors, and everything, are upside down. When the visitor enters he finds himself standing upside down, so are all about him. This is one of the most mirth-provoking side-shows of the whole colony of clever surprises.

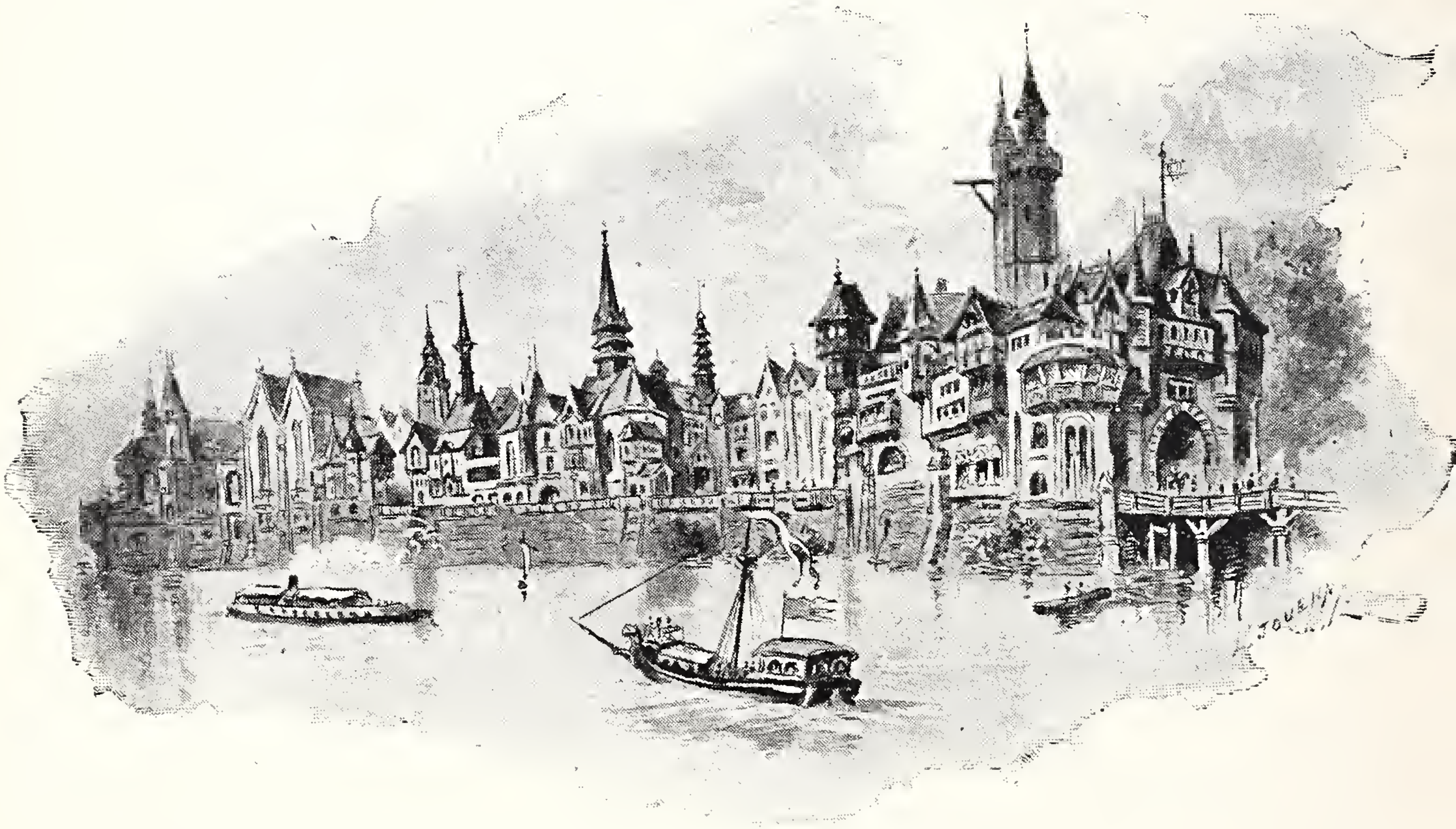
Then there is a volcano which, although it does not pour molten lava over too venturesome visitors, is most realistic in its appearance. There will be no need to leave Paris for Switzerland this year if one but desires to scale a mountain, for here is one no less than 328 feet high, and so arranged as to present many of the features of mountain climbing. Besides, this mountain has a great advantage over other volcanoes; its interior can be visited, and perhaps enjoyed. But, first, to give an idea of the exterior. In every way the outside is designed to look as like the genuine volcano as possible. Its top is bold, and its shoulders rocky; farther down the grass appears, so that to its foot it stands forth delightfully and refreshingly green. Paths wander up the side of this volcano, and those who undertake the journey to the top will find at convenient intervals cosy nooks to sit and rest in, as well as wayside inns at which to refresh themselves, at stated intervals, the volcano being strictly obedient; there is a terrible eruption, and to make the effect complete, a cloud of smoke hovers over the volcano perpetually. Inside the space is devoted to a representation of Dante's Inferno and Paradise, and there are other attractions and entertainments.

From the top of a volcano one can drop to the bottom of the sea, and in fact, in doing so one does not require to bid good-bye to his beloved volcano, for at the bottom of this side-show sea there is a volcano working. Immense glass tanks have been so arranged and so stored that the visitor is enabled to stroll about and examine the plants that thrive and the animal life that exists at great depths below the surface of the sea. In order to make this side-show thoroughly realistic, the visitor is able to carefully watch real divers in real diving-dress exploring the sea-floor, or at work upon the hulls of sunken ships. Here too are fishes and animals of a kind that has never previously been shown to the general public; we refer to those that cannot live elsewhere than where the pressure of the water from above is very great. This pressure, to be sure, has been arranged for, and the fish and sea-animals go about their daily occupation as though they were not on exhibition, but at home. From under the sea the visitor can journey to another part of the Exhibition, and there he may take a trip on the sea. Here is fitted up a mock steamer, and all the pleasures of rough weather and smooth can be experienced while this ship makes the tour of a bogus but wonderfully realistic Mediterranean.

There is a Loie Fuller Theatre, in which luminous effects of a most marvellous character are given. There is an "Old Paris," quite a little city in itself, after the model of the "Old London" that stood in one of the South Kensington Exhibitions, but on a far more comprehensive and elaborate scale; in fact, so large is it that one can well spend a day examining its myriad points of interest. Old Paris stands on a platform of piles extending on the Seine from Alma Bridge to the Jéna Bridge, and has a river frontage of 900 feet, and a surface covering 20,000 square feet. It reproduces the streets and buildings of the time of Louis XIII. and Louis XIV., and is full of people in costumes and dresses of that period.

There are several "biggest in the worlds" exhibited as side-shows. One is the biggest musical box in the world, made of 80,000 pieces of musical apparatus, and the box plays every kind of concert music in the most finished style, and cost about £2,500 to build. It is said that the real name of the music-box is " autoelectropolyphone." Another biggest in the world is a wine-tun, which is more than twice as large as the world-famous Heidelberg tun, holding as it does 88,000 gallons of wine. In this tun, which was made in Nancy, 100 people have dined at one time. Then there is a see-saw that hoists the visitor high above Paris, and lets him down again after he has had a good bird's-eye view of the city and surrounding country.

At another side-show the visitor can make the tour of the world, passing through station after station, upon the platforms of which stand attendants in the dress of the particular country the train is then supposed to have reached. There are, too, panoramas almost by the dozen; a large one of Madagascar, one of the Congo, and one of a trans-Atlantic trip. There is a wonderful Palace of Fair Women, gathered together from all parts of the world; there is a Swiss village, as large and populous and accommodating as many a village one comes across whilst travelling in Switzerland; there is a Palace of Dance, 20,000 marionettes all on the jig at once. There are a host of theatres: Theatre des Bous-hommes; de la Roulotte; Grand Gingoul; Indo-Chinois, etc. There is, of course, a gigantic captive balloon, and towering above all side-shows, itself the greatest of them all, the marvellous Eiffel Tower—" Tour de 300 Metres." The side-shows of themselves might well make the Exhibition of 1900 a remarkable one.



OLD PARIS.

CONGRESSES.

THE PARIS INTERNATIONAL ASSEMBLY.

A GREAT poet dreamed a dream of the "Parliament of Nations and the Federation of the World" some fifty years ago. But the picture he drew was hardly understood by his contemporaries, and was not even discussed by his critics. Yet to-day his prevision is almost stamped with the truth of prophecy. For two Parliaments will meet, and the federation of the civilized world will be a *fait accompli*, if the programme of the International Exhibition be carried out in its entirety. It might almost be said that such a gathering would be the natural corollary of the world's offerings to the Temple of Peace. On view now are collections illustrating not only the products but the Industries, the social organisations, and Institutions of every nation. But, clearly the show would be deprived of half its value if it were merely a bazaar, a promenade, and an interesting display for the sightseer, instead of speaking great truths, and teaching golden lessons through the mouths of erudite and earnest interpreters to the students of the Arts and Crafts in the Nineteenth Century. The organisers of the Exhibition have appreciated their opportunity, and have wisely determined that it shall not be lost. They have arranged that a series of Congresses shall be held during the opening of the building, at which the world's experts in the vast fields of human knowledge and progress shall be assembled to discuss the several problems to which they have devoted their studies. As a consequence influential

Committees have been formed in France and this country to work out the idea, and a similar movement has been started in the United States, Belgium, Germany and Italy.

The headquarters of this organisation will be the Paris International Assembly, which will recruit in each country members for the various Congresses to be held during the Exhibition; and something in the shape of a Welcome Club will be provided, at which workers in each special field will be enabled to meet their French brother workers. Apart from these arrangements assistance will be given to all foreign students who may desire during their visit to spend a term at a French University. Moreover, a department of Guidance will be formed, which will enable the visitor to more readily see the classes of exhibits in which he is interested, and it is hoped that the Assembly will be able to provide three courses of lectures—

(1) On the questions of Social Progress being agitated at the present time.

(2) On the Exhibits in the Galleries, by special experts.

(3) On the Exhibition itself, its objects, organisation, etc.

The subjects will be grouped under the general headings of Art, Industry, Hygiene, and Medical Education, Political and Social Economy.

The subjoined programme affords ample proof of the comprehensive scope of the work which the Assembly has inaugurated.

SCIENCE.

Ornithology	June	26th to 30th.
Meteorology	July	23rd to 28th.
Physics	Aug.	6th to 11th.
Mathematics	,,	6th to 11th.
Geology	,,	16th to 28th.
Electricity	,,	18th to 25th.
Anthropology and Archaeology	,,	20th to 25th.
Psychology	,,	22nd to 25th.
Ethnography	,,	26th to 1st Sept.
Chemistry	Sept.	20th to 29th.
Botany	Oct.	1st to 6th.

APPLIED SCIENCE AND ASSOCIATED INDUSTRY.

Horticulture	May	25th to 27th.
Forestry	June	4th to 7th.
Mines and Metallurgy	,,	18th to 23rd.
Vine Cultivation	,,	20th to 23rd.
Insurance	,,	25th to 30th.
Actuaries	,,	25th to 30th.
Agriculture	July	1st to 7th.
Testing of Materials	,,	9th to 16th.
Steam Engines and Machinery	,,	16th to 18th.
Applied Mechanics	,,	19th to 25th.
Architecture and Naval Construction ...	,,	19th to 21st.
Photography	,,	23rd to 28th.

Applied Chemistry	,,	23rd to 31st.
Navigation	,,	30th to 4th Aug.
Pharmacy	Aug.	8th.
Economic and Commercial Geography	,,	23rd to 31st.
Tramways	Sept.	10th to 12th.
Fruit Culture	,,	13th to 14th.
Railroads	,,	20th to 29th.

MEDICINE AND HYGIENE.

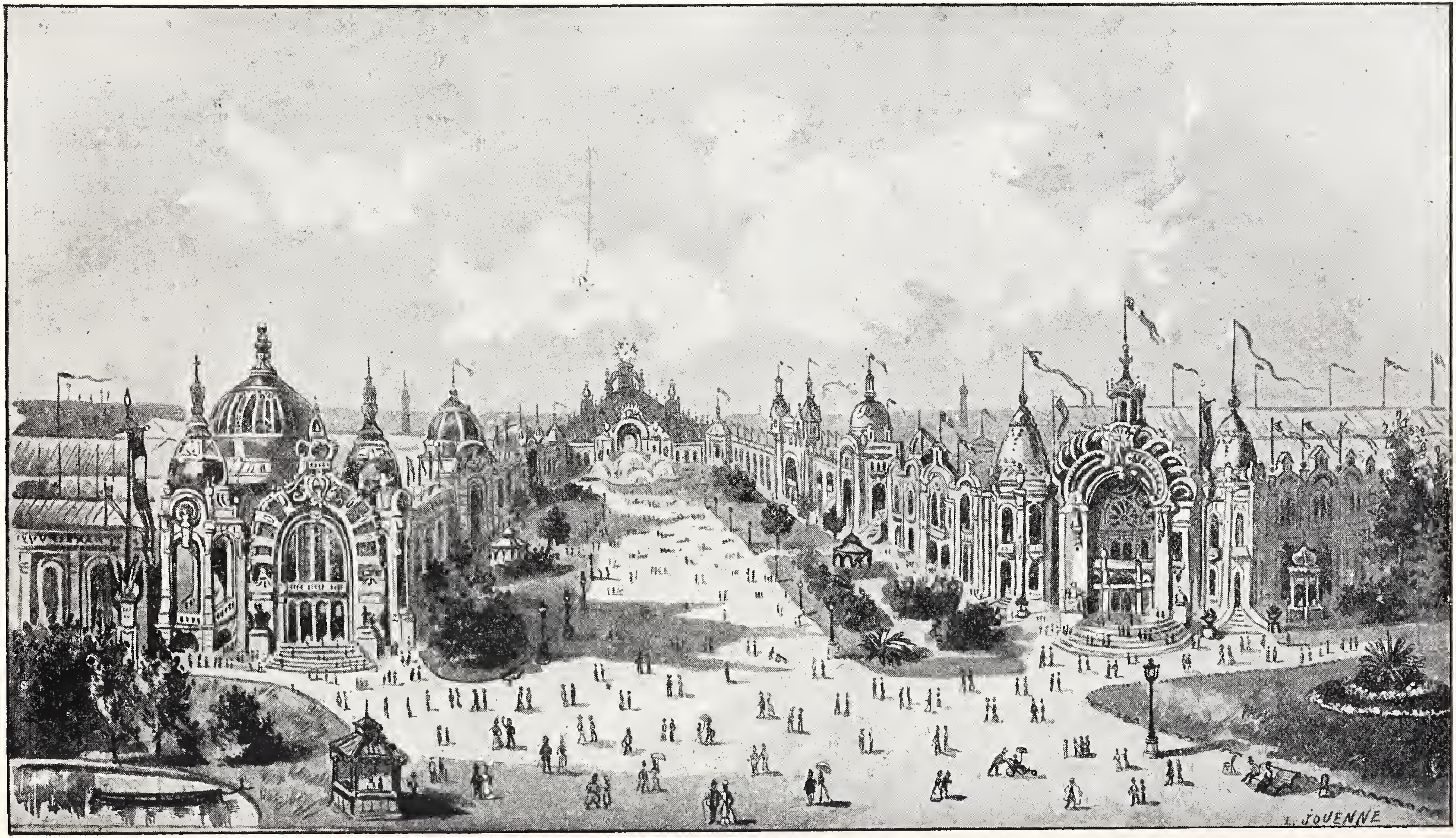
Professional Medicine	July	23rd to 28th.
Medicine	Aug.	2nd to 9th.
Dermatology	,,	2nd to 9th.
Dentistry	,,	8th to 14th.
Hygiene	,,	10th to 17th.
Hypnotism	,,	12th to 15th.

EDUCATION.

Modern Language Teaching	July	24th to 29th.
Higher Education	,,	30th to 3rd Aug.
Teaching of Social Science	,,	30th to 5th ,,
Primary Education	Aug.	2nd to 5th.
Secondary Education	,,	2nd to 5th.
Technical, Industrial Education	,,	6th to 11th.
Educational Press	,,	9th to 11th.
Bibliography	,,	16th to 18th.
Teaching of Drawing	,,	29th to 1st Sept.
Popular Education	Sept.	10th to 13th.
Agricultural Instruction	,,	14th to 16th.

SOCIAL AND POLITICAL ECONOMY.

Cheap Dwellings	June	18th to 21st.
Compartive History	,,	18th to 21st.
Women's Work and Institutions	,,	18th to 23rd.
Agricultural Syndicates	July	8th.
Credit Banks	,,	8th to 10th.
Co-operative Production	,,	11th to 13th.
Profit-Sharing	,,	15th to 18th.
Co-operative Societies	,,	15th to 17th.
International Co-operative Alliance	,,	18th to 22nd.
Commerce and Industry	,,	23rd to 28th.
Colonial Sociology	,,	30th to 4th Aug.
Poor Relief	,,	30th to 5th ,,
The Blind	Aug.	5th.
Deaf Mutes	,,	6th to 8th.
Anti-Slavery	,,	6th to 9th.
Colonies	,,	6th to 11th.
History of Religions	Sept.	3rd to 8th.
Women's Rights	,,	5th to 8th.
Social Education	,,	6th to 9th.
Peace	,,	29th to 6th. Oct.
Maritime Law	Oct.	1st to 3rd.



CHAMP DE MARS BUILDINGS AND GARDENS.

EXHIBITORS' LOCATION.

To find the location of any of the following exhibitors: Notice the figures that are given at the end of line which refers to the page and square of the sectional plans. Thus: Biltor, Ltd., II. E 18. *On Plan II. look for* E *on side margin and* 18 *on top margin. Their stand will be found at that point where a line drawn down from* 18 *intersects a line drawn from* E. *The firms marked * are exhibiting in the Galleries.*

PLAN *I.*	FINE ARTS	*Facing Page*	64
,, *II.*	INVALIDES	,,	68
,, *III.*	HORTICULTURAL BUILDINGS	,,	72
,, *IV.*	ARMY AND NAVY	,,	76
,, *V.*	EIFFEL TOWER GARDENS	,,	80
,, *VI.*	CHAMP DE MARS (NORTH)	,,	86
,, *VII.*	,, ,, (SOUTH)	,,	90
,, *VIII.*	TROCADERO	,,	94

Name and Address.	Trade.	Plan.
*Ackroyd & Best, Ltd., Hembrigg Wks., Morley, Yorks.	Safety Lamp Makers	*VI.* E 52
*Adams, Robert, London, S.E.	Builders' Specialist	*VI.* E 52
Aerators, Ltd., Broad St. Avenue, London, E.C.	Sparklets, etc.	*VII.* D 68
Allcock, S., & Co., Standard Works, Redditch	Fishing Tackle	*V.* G 47
Anaglypta, C., 192-3, Great Russell St., London, W.C.	Interior Decorations	*II.* D 14
*Archers, Ltd., Westgate New Mills, Wakefield	Cocoa Matting	*II.* F 17
*Arnold, P. & J., 155, Aldersgate St., London, E.C.	Writing Inks, etc.	*II.* E 18
*Asso. Diamond Merchants & Jewellers, Ltd., 6 Grand Hotel Bldgs., W.C.		*II.* F 18
*Athlone Woollen Mills Co., Ltd., Athlone, Ireland	Irish Cheviots	*VII.* G 61
*Avery, W. & T., Ltd., Soho Foundry, Birmingham	Weighing Machines	*VII.* E 69
Bagguley, G. T., Newcastle, Staffs.	Bookbinders	*VI.* E 59
Bamford & Sons, Uttoxeter, Staffs.	Agricultural Implements	*VII.* D 67
Belfast Mineral Water Co., Ltd., Belfast, Ireland	Aerated Waters	*VII.* D 68
*" Biltor," Ltd., 93, Oxford St., London, W.	Pipes & Holders	*II.* F 18
*Blast Furnace Power Syndicate, Ltd., 24, Gt. George St., Westminster, London	Power from Blast Furnace Gases	*VI.* F 52
*Boyle, R., & Son, Ltd., London and Glasgow	Ventilating Engineers	*VII.* C 69
Brinnert-Bellschwitz, Bellschwitz i/ Westpreussia		
Brit. Non-Flam. Wood Co., Ltd, 3, Victoria St., S.W.	Non-Inflam. Wood	*IV.* D 37
Brunner, Mond & Co., Northwich	Chemicals Manufacturers	*VII.* G 67
Brown, A. H., 10, Pall Mall, London, S.W.	Naval Architect	*V.* F 42
Buckingham, T. H. & Co., 5-8, Ropemaker Street, London, E.C.	Cravat Silk Manufacturers	*VI.* H 51
Bussy, Geo. G., & Co., Peckham, London	Sports and Games	*II.* E 18
Caslon, H. W., & Co., 22, Chiswell St., London, E.C.	Type-founding	*VI.* E 59
*Chlo. Elect. Storage Syndicate, Ltd., Clifton Junction, near Manchester	Storage Batteries	*VII.* E 66
Clarkson, W., 45, Wellington St., London, W.C.	Costumier & Perruquier	*VI.* E 59
Glayton & Shuttleworth, Lincoln	Engineers	*VII.* D 58
*Cleeves, E. A., & Co., 23, Lime St., London, E.C.	Anthracite Coal	*VI.* F 51
Collier & Co., by Appointment to H.M. the Queen and H.R.H. the Prince of Wales, 53, Southside St., and 105, Old Town St., Plymouth. Branches at Portsmouth, Torquay and Malta. Liqueurs, Devonshire Sloe Gin, Cherry Brandy, Cherry Whisky, Apricot Brandy, Peach Brandy, Peach Bitters	Wine & Spirit	*VII.* D 67
Cook & Son, Thomas, Ludgate Circus, London, E.C.	Tourist Agents	*VI.* A 59

Name and Address.	Trade.	Plan.
*Cooke, J. R., & Sons, 55, High St., London, W.C.	Whips	*VI.* A 51
*Cooke, William, & Co., Ltd., Sheffield, Tinsley Steel, Iron and Wire Rope Works. Wire Ropes of all kinds for Mines, Ships, Hoists and Transport. Horse and Pony Shoes of every description. Yorkshire Iron and Steel Bars for engineering and other special purposes. Steel Section Bars for gripping Rubber Tyres on Vehicles. Wire Rods for Rope Wire, Card and Spring Wire	Steel, Iron & Wire Rope	*VI.* F 52
*Cooksey, S., & Co., 15, Bennett St., London, S.E.	Hat Manufacturers	*VI.* H 61
Co-operative Union, Long Mill Gate, Manchester	Co-operation	*III.* F 29
*Cory Bros. & Co., Ltd., Cardiff	Coal	*VI.* E 51
Cotton Powder Co., Ltd., 32, Queen Victoria Street, London, E.C.	Marine and Military Signals	*VI.* B 59
*Courtauld, Samuel, & Co., Ltd., 19, Aldermanbury, London, E.C.	Waterproof Silk, Crapes	*VII.* H 61
Cowper-Coles, Sherard, 82, Victoria St., S.W.	Electro Metallurgist	*VI.* H 52
Crossley, Thos., & Co., Middleton Junction, Manchester	Power Looms	*VII.* H 62
Crowley, John, & Co., Ltd., Sheffield	Chaffcutting Machines	*VII.* C 67
Dallmeyer, J. H., & Co., Ltd., 25, Newman St., W.	Photo Appliances	*VI.* H 60
*Daniell, S. A., Ltd., Birmingham.	Machinists & Tool Makers	*VI.* E 52
Day & Martin, Ltd., London, S.E.	Blacking, etc.	*VII.* G 67
Deutsche Rettungsfenster-Act-Ges, Beuel a/ Rhein		*VII.* H 63
Dudbridge Iron Works, Ltd., Stroud	Gas & Oil Engines	*VII.* H 61
Dunville & Co., Ltd., Belfast.	Whisky Distillers	*VII.* D 67
*Electrical Power Stor. Co., Ld., 4, Gt. Winchester St.	Electric Accumulators	*VII.* E 65
*Feltham, W. H. & Co, 87, Tooley Street, S.E.	Cotton Bags	*VII.* G 61
Field, J. C. & J. Ltd., London, S.E.	Soaps & Candles	*VII.* G 67
*Field, J. J., 25, Helmet Row, London, E.C.	Writing Inks, Gums, Wax	*II.* E 18
Ford, T. B. Ltd., High Wycombe, Bucks.	Chemical Manufacturers	*VII.* H 69
Forder & Co., Ltd., 7 & 9, Upper St. Martin's Lane, London, W.C.	Hansom Cab Builders	*VI.* B 59
Foster, John, & Son, Ltd., Queensbury, near Bradford	Alpaca and Mohair Spinners and Manufacturers	*VII.* H 61
Fowler, John, & Co., Ltd., Steam Plough Works, Leeds	Engineers	*VII.* D 67
Frictionless Engine Packing Co., Ltd., Manchester	Engine Packing	*VII.* H 61
Fullers Earth Union, Billiter Sq. Buildings, E.C.	Fullers Earth	*VII.* H 69
*Gillott, Joseph, & Sons, Birmingham, Metallic Pens for Schools, Banks, General Offices, Designers, Architects, Lithographers and Engineers. Branch Offices—London: 37, Gracechurch St.; New York: 91, John St. Sole Agency for Paris, 53, Rue Notre-Dame de Nazareth.	Pens.	*II.* F 18
*Goldsmith's & Silversmith's Co., Ltd., 112, Regent Street, W.	Jewellers	*II.* F 18
Great Southern & Western Railway, Dublin	Railway	*VI.* A 59
Gutermann & Co., Waldkirch-Gutach (Baden)	Silk and Silk Fabrics	*VI.* A 52
Hall, Joseph & Co., Burley Engine Works, Leeds	Engineers	*VII.* H 68
Hardy Bros., Alnwick, Northumberland	Fishing Rods & Tackle	*V.* G 47
*Hardy Patent Pick Co., Ltd., Sheffield	Mining Tools	*VI.* F 52
Harris, C. & T., & Co., Ltd., Calne	Wiltshire Bacon	*VII.* C 67
Hartley & Sugden, Ltd., Halifax, Yorks	Boiler Makers	*II.* D 13
Haynes, Geo., & Co., Hampstead Mills, Stockport	Lamp Wicks & Bandages	*VII.* G 67
*Heaton, Butler & Bayne, 14, Garrick St., W.C.	Stained Glass Artists	*II.* F 17
Henry, J. S., 287-291, Old Street, London, E.C	Modern Furniture	*II.* F 17
Hicks, Jas. J., 8, Hatton Garden, London, E.C.	Thermometers, Clinical and Meteorological Instruments	*VI.* E 59
Hill, R. & J., Ltd., 175, Shoreditch	Tobacco and Cigarettes	*VII.* H 67
Ditto Pavilion for Sale of Samples of Exhibit, by Special Concession kindly granted by the French Government		*II.* G 18
*Hinks, Well & Co., Buckingham Street, Birmingham	Pens	*II.* E 18
Holzapfel's Compo. Co., Ltd., Newcastle-Tyne	Ships Paints	*V.* G 42
Howards & Sons, Stratford, near London	Chemical Manufacturers	*VII.* G 67

Name and Address.	Trade.	Plan.
Howard Bros., 38, S. Castle St., Liverpool	Time Recorders	*II.* E 17
*Howell, H., & Co., 180, Old Street, E.C.	Canes & Sticks	*VI.* A 51
*Husbands, J., & Co., 45a, Basinghall Street, E.C.	Umbrella Makers	*VII.* H 62
Jennings, George, London & Paris	Sanitary Engineer	*VII.* C 69
Jeyes' Sanitary Compounds Co., Ltd., 64, Cannon Street, London, E.C.	Sanitary Compounds	*IV.* D 34
Kelly's Directories, Ltd., 182-3-4, High Holborn, London, W.C.	Directory Publishers	*VI.* E 59
King's Norton Metal Co., Ltd., King's Norton, Nr. Birmingham	Metals for Sporting Ammunition	*V.* F 47
	Brass, Copper, &c., for Tubes, &c.	*VI.* E 51
	Cartridges	*IV.* D 35
Lachenal & Co., Little James St., London, W.C.	English Concertinas	*VI.* E 59
*Lambton Colleries, Ltd., Newcastle-on-Tyne	Coal	*VI.* F 51
Lancaster, Charles, 151, New Bond St., London, W.	Guns & Rifles	*V.* F 47
Leichner, L., Berlin	Theatrical Perfumery	*VI.* A 52
Lever Brothers, Limited, Port Sunlight, Cheshire	Soaps, Glycerine	*VII.* H 68
	Model of Works and Village	*VI.* B 59
	Workman's Model Cottage	Vincennes
	Copra and Cocoanut Oil Cake	*VIII.* C 77
Lincoln, Bennett & Co., Ltd., 1—3, Sackville St., W.	Hat Manufacturers	*VII.* H 61
Linotype Co., Ltd., 188, Fleet St., London, E.C.	Type-setting Machines	*VI.* E 59
*Lobb, John, 296, Regent St., 29, St. James's St., London. Paris address—1, Rue du 29 Juillett, Rue de Rivoli, Bootmaker. British Section—Group XIII.—No. 1,319. Ladies and Gentlemen's Hunting, Riding, Shooting, Walking and Dress Boots and Shoes. Customer work	Bootmaker	*VI.* A 51
Lond. Prov. Dairy Co., West Halkin St., London, S.W.	Dairy Products	*II.* G 18
Lumby, Son & Wood, Ltd., Halifax, Yorks.	Boiler, Safes, &c.	*IV.* C 35
Manockjee, Poonjiajee & Sons, Bombay	Indian Condiments	*VII.* C 61
Mappin Bros., Regent St., and 66, Cheapside, London. Queen's Manufactory, Sheffield	Jewellers Silversmiths Cutlers, &c.	*II.* E 18
Manfield & Sons, Northampton	Boot Manufacturers	*VI.* A 51
*Mathews & Yates, Ltd., Cyclone Wks., Swinton, Lancs.	Engineers	*VII.* G 68
May, E. G., Sohne, Frankfort a/M	Lithographer	*VI.* E 59
McNeil, F., & Co., 2, Bunhill Row, London, E.C.	Felts and Slag Wool	*VI.* B 59
National League of Mineral Painters, U.S.A.	Ceramics	*II.* E 18
Nettlefolds, Ltd., Birmingham	Screw Manufacturers	*VI.* H 52
Nettleship & Co., Alnwick	Fishing Tackle Makers	*V.* G 47
Newellite Glass Tile Co., Ltd., 139, Cannon St., E.C.	Glass Tiles	*II.* F 17
Newman & Guardia, 90, Shaftesbury Avenue, W.	Scientific Instruments	*VI.* E 59
*Nobel's Explosives Co., Ltd., 149, West George St., Glasgow	Explosives	*VII.* E 66
Ditto Ditto	Ditto	*V.* G 47
* Ditto Ditto	Ditto	*VI.* E 52
Oakes Bros. & Co., 46, New Bond St., London, W.	Cigar Manufacturers	*VIII.* C 74
Old Bushmills Distillery Co., Ltd., Belfast	Whisky Distillers	*VII.* D 67
Orient Line R.M. Steamers, 13, Fenchurch Av., London, E.C.	S.S. Owners	*V.* F 42
Parkinson, J., Shipley, York.	Vises	*VI.* C 60
Patent Borax Co., Ltd., Ladywood, Birmingham	Soap Manufacturers	*VII.* G 67
Patent Nut & Bolt Co., Ld., Lndn. Wrks., nr. Birmingham.	Nuts & Bolts	*VI.* F 52
Pilkington's Tile & Pottery Co., Ltd., Clifton Junc., nr. Manchester London Show Room and Warehouse, 37 & 38, Shoe Lane	Tiles & Pottery	*II.* F 18
Price's Patent Candle Co., Ltd., Battersea, S.W.	Soaps, Candles, etc.	*VII.* G 67
Proctor, James, Burnley, Lancashire	Mechanical Stokers	*VII.* G 67
Protene Co., Ltd., 36, Welbeck Street, London, W.	Proteid Specialists	*VII.* F 67
Purdey, J., & Son, 57, South Audley St., London, W.	Guns & Rifles	*V.* G 47

Name and Address.	Trade.	Plan.	
*Redditch Joint Exhibit.—Collective Exhibit of the products of wire drawing, Needles, Sewing Machine Needles, Fish Hooks. Bartleet, Wm. & Sons, Abbey Mills, Redditch ; James, John & Sons, Victoria Works, Redditch ; Milward, (Henry), & Sons, Ltd., Washford Mills, Redditch ; Kirby Beard & Co., Park Wood Mills, Redditch ; manufacturers also of all sorts of Sewing Needles, Sail, Packing, Surgical, Harness, Glovers, Tapestry, Mattress, Upholsterers, and Carpet Needles, Crochet Hooks, Bodkins, Fishing Tackle of every description, Fishing Rods, Fish Hooks of all sorts for sea and river fishing, 6 gold medals were obtained by two of the Exhibitors at the Paris Exhibitions of 1878 and 1889, and in addition these four houses have obtained 65 gold and other medals at different Exhibitions. (See group 11, class 65, stand No. 112.)		*VI.*	E 52
Remington Standard Typewriter, Paris, London & New York	Typewriters	*VI.*	F 59
Rigg, James, 11, Queen Victoria Street, London, E.C.	Coal Tippler	*VI.*	H 51
Richter, F. Ad., & Co., Rudolstadt, Germany	Stone Toy Building Bricks	*II.*	F 18
Ditto ditto	Musical Instruments	*VI.*	F 59
Robey & Co., Ltd., Globe Works, Lincoln, England	Steam and Gas Engines and Mining Machines	*VI.*	H 51
*Robinson, Peter, 204 to 228, Oxford Street, W.	Gowns & Costumes	*VII.*	H 61
Ross, Ltd., 111, New Bond Street, London, W.	Opticians	*VI.*	E 59
Ruston, Proctor & Co., Ltd., Lincoln	Fixed Engines, Portable and Traction Engines Steam Thrashing Machines Steam Excavator	*VII.*	D 67
*Salter & Co., George, West Bromwich, Staffs.	Weighing Machines	*VII.*	E 69
Sampson & Co., Ltd., Stroud, Gloucester.	Engineers for Transmission of Power	*VII.*	G 67
Scientific Instrument Co., Ltd., Cambridge	Scientific Instruments	*VI.*	E 59
Segitz & Neidhardt, Fuerth, Bavaria	Bronze Powder & Metal leaf Mfctrs.	*VI.*	F 61
Septic Tank Syndicate, Ltd., Exeter & Westminster	Sewage Purification	*VI.*	B 59
Sharwood, J. A., & Co., St. George's House, Eastcheap, E.C.	Worcestershire Sauce	*VII.*	D 68
Smith, George, & Co., 151, Strand, London, W.C.	Saddlers	*VI.*	B 59
*Smith, S., & Son, Ltd., 9, Stand, London, W.C.	Watchmakers	*II.*	F 18
*Smith, Faire & Co., Leicester	Boot Manufacturers	*VII.*	A 51
Swaine & Adeney, 185, Piccadilly, London, W.	Saddlers	*VI.*	B 59
Symons, Jno., & Co., Ltd., Totnes, Devon, & Ratcliff, London, E. Cyder for Home use and Exportation to Hot Climates	Cyder	*VII.*	D 68
Tangyes, Ltd., Birmingham	Engineers	*VII.*	E 67
Teofani & Co., 18, Bury St., London, E.C.	Cigarettes & Tobacco	*VII.*	H 67
Teofani & Co., 18, Bury St., E.C. Pavilion for sale of samples of Exhibit, by Special Concession kindly granted by the French Government.		*II.*	G 18
Turnbull & Stockdale, Ltd., Stacksteads, nr. Manchester	Cretonne Printers	*II.*	G 17
*United States Metallic Packing Co., Ltd., Bradford	Metallic Packing	*VII.*	E 69
*Wardle & Davenport, Ltd., Leek, Staffs.	"Peri-Lustré Embroideries"	*VII.*	G 61
Waring, S. J., & Sons, 175 & 181, Oxford St., London, W.	Furniture	*II.*	E 18
Westley Richards & Co., Bournbrook, Birmingham	Guns & Rifles	*V.*	F 57
Wilkinson, Heywood & Clark, Ltd., 7, Caledonian Road, King's Cross, London, N.	Varnish, Paints and Colours	*VII.*	H 68
Wilson & Co., Barnsley, Ltd., Barnsley, Yorks	Bobbin Manufacturers	*VI.*	E 52
Wilson & Stockall, Bury, near Manchester	Ambulances	*VI.*	B 59
Wright, Geo., & Co., London	Billiard Tables	*II.*	G 17
Yates & Co., Ltd., Royal Carpet Factory, Wilton, Wilts	Carpets	*II.*	G 17
Yost Typewriter Co., Ltd., The, 50, Holborn Viaduct, E.C.	Typewriters	*VI.*	F 59
Ditto ditto	Machines in Operation	*II.*	E 18

BY RAIL TO PARIS.

THE visitor has six routes at his disposal, the first being the service by the South Eastern and Chatham and Dover Railway Co., viâ Dover-Calais. This route boasts of the shortest sea passage, and takes fewer hours than any other, and must be specially recommended to all those to whom time is money, and who dread, as many do, the time spent on the sea. It is more particularly suitable for crossing in the day than at night, as the passenger, unless he wants to sleep until twelve or one o'clock in the day, does not as a rule know what to do with himself when arriving as early as 5.50 a.m. in Paris. The starting points for this service are either Holborn, St. Paul's, Victoria, Charing Cross, or Cannon Street. During the time the Exhibition is open, cheap excursions are run by this Company every Saturday, available for 14 days, leaving Charing Cross and Cannon Street at 2.45 p.m. (via Boulogne), and every Friday and Saturday from Charing Cross and Cannon Street, at 9 p.m. (via Calais).

An alternative road by South Eastern and Chatham and Dover is viâ Queenborough and Flushing, by means of the R. R. R. service. This route appeals, of course, principally to travellers to Rotterdam, Amsterdam, Germany, and viâ the Rhine to Switzerland, but will suit a good many people who desire to see parts of Holland and Belgium. For ease it cannot be excelled, as the Dutch State Railways have been and are making special efforts for the comfort of the thousands of travellers which they are attracting.

By means of the Brighton line, the traveller has two alternatives. He may go from Victoria or London Bridge, viâ Folkestone and Boulogne, securing a short sea voyage; or viâ Newhaven and Dieppe, without a doubt the prettiest route. The sea passage here is about four and a half hours for the night service, and three and a half hours for the day service. The traveller making use of the former finds himself in Paris at a convenient hour, and is sure of at least four hours' sleep on board the boat. The day service is, of course, a different matter, and those in dread of Neptune's temper would naturally favour one of the other routes, benefitting by the shorter sea voyage. During the Exhibition special 14-day Excursion Tickets are issued by the night train every Friday and Saturday.

The visitor who is entirely pleasure bound, with plenty of time on his hands, and desirous of seeing *en route* as much as he can, cannot do better than travel by the South Western Railway, viâ Southampton and Havre. Here he is practically in a position to sleep all night on board boat, and will be able to have a good look round at Havre, one of the finest ports in the world. Cheap Excursion Friday and Saturday, available for 14 days. The Paris terminus of this route, St. Lazare, will be found to be the most central and convenient station in Paris. The Western of France (Ouest) Railway, and direct access to the Exhibition, is connected with this line.

The last alternative route at the disposal of travellers to the Continent is by Great Eastern Railway, viâ Harwich and Hook of Holland. Here again, the passenger will only select this road if he has plenty of time at his disposal, and is desirous of having a look round in Holland and Belgium.

We append a condensed time table for the use of travellers selecting any of the above routes, together with the prices of tickets for ordinary and excursion services:—

L.B. & S.C.Ry.

Via Newhaven, Dieppe and Rouen.

	1 & 2 cl. a.m.	1, 2, & 3 cl. p.m.
VICTORIA	10.0	8.50
LONDON BRIDGE	10.0	9.0
PARIS	6.55	7.15

	1st class.	2nd class.	3rd class.
SINGLE ...	£1 14 7	£1 5 7	£0 18 7
RETURN, 1 month ...	£2 18 3	£2 2 3	£1 13 3
,, 2 months ...	£3 3 9	£2 6 1	£1 16 3
14 Day Excursion ...	£1 19 3	£1 10 3	£1 6 0

S.E. & C.D.Ry.

Via Folkestone—Boulogne and Dover—Calais.

	1 & 2 cl. a.m.	1 & 2 cl. a.m.	1 & 2 cl. a.m.	1, 2 & 3 cl. p.m.	1, 2 & 3 cl. p.m.
CHARING CROSS ...	9.0	10.0	11.0	2.45	9.0
VICTORIA ...	—	via B'logne	11.0	—	—
CANNON STREET ...	9.5		—	2.50	9.5
HOLBORN ...	—		11.0	—	—
PARIS ...	4.55	5.50	7.0	11.10	5.50

Via Calais.

	1st class.	2nd class.	3rd class.
SINGLE ...	£2 16 2	£1 19 2	£1 5 6
RETURN, 1 month	£4 14 9	£3 8 10	£2 0 0

Via Boulogne.

SINGLE ...	£2 10 0	£1 14 8	£1 2 9
RETURN ...	£4 7 10	£3 3 0	£1 17 5

Via Calais or Boulogne.

14 Day Excursion	£2 18 4	£1 17 6	£1 10 0

S.W.Ry.

Via Southampton and Havre.

	p.m.		a.m.
WATERLOO	9.45	HAVRE	8.0
SOUTHAMPTON	12.0	PARIS	11.30

	1st class.	2nd class.	3rd class.
SINGLE ...	£1 13 10	£1 4 10	—
RETURN ...	£2 16 8	£2 0 8	—
14 Day Excursion ...	£1 19 3	£1 10 3	£1 6 0

BY ROAD TO PARIS.

I.—LONDON TO NEWHAVEN.

THE road to Newhaven is measured from London Bridge (Surrey side), and from this point, for some miles is anything but an ideal route for either cycle or motor car, passing as it does St. George's Church and the "Elephant and Castle," where cobbles of the worst type have to be encountered. Nor do matters improve on the way to Brixton Hill, and it is not until Streatham is reached that the cobbles give place to rough macadam, which continues past Norbury and Thornton Heath to Croydon (10 miles). The cyclist will, therefore, do well to avoid, if possible, the main road as far as Brixton.

Beyond Croydon the surface improves gradually until the tramway terminus is passed, when it rapidly becomes good and continues so to Purley Corner (11¾ miles). Here the rider must turn to the left to Warlingham, passing along Caterham Valley and up a gradual ascent to Caterham, beyond which are two rather steep inclines followed by a long run down to Godstone. At the further end of the village there is a slight descent past the "Clayton Arms" (Cyclists' Touring Club Hotel), one of the best-known cycling houses in the south of London. This inn, moreover, has quite a history, having been built in the reign of Queen Elizabeth, and it was frequently visited by Queen Victoria during her youth.

At the "Clayton Arms" the road forks, and the left-hand branch must be followed past Godstone Station up three steep, but short, hills, after which comes a long descent and an undulating stretch of road, with an excellent surface. The undulations are, however, mostly on the down grade until a short rise occurs into East Grinstead (29½ miles; C. T. C. house, the Railway Hotel). In the town the road forks, and it is better to follow the right hand one past the Constitutional Club, proceeding along the High Street. Another

FOOT OF GODSTONE HILL.

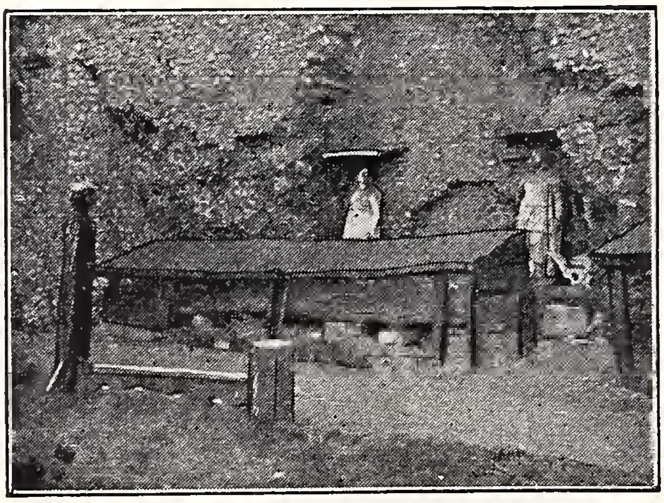
THE "CLAYTON ARMS," GODSTONE.

FOREST ROW.

NEAR DANEHILL.

HILL NEAR WYTCH CROSS.

LEWES CASTLE.



ANCIENT BRITISH CANOE AND STOCKS, LEWES CASTLE.

undulating stretch of highway leads to Forest Row (32½ miles), where, at a fork, the right hand road is taken. A long ascent now follows, and at the summit is Wytch Cross (35), where again two roads meet, the left hand road being avoided and the rider proceeding to the right, still slightly uphill for some little distance.

A fairly level stretch, followed by a slight descent, leads to Danehill, and, straight on, to Chailey Corner, after passing which, the common is crossed, and the small village of Chailey entered. From this point the character of the road remains unchanged, there being no difficult hills, to Offham (48 miles). Hence it is all downgrade to the outskirts of Lewes, upon entering which the road ascends White Hill—which is somewhat steep—and, after having reached the summit, the second turning to the right leads to the High Street. At Lewes (50 miles) members of the C. T. C. have the choice of two houses, the "Bear" and the "White Hart."

It is worth while to make a halt at Lewes to see the Castle, built soon after the Conquest. A very fine view is obtained from the tower, overlooking the town, and the chalk downs in the distance. The admission to the Castle is sixpence, and as the place is well kept up, the charge is not excessive. Amongst the curiosities, mention must be made of the first plough used in Sussex, an old cannon of Spanish manufacture, which was found in Newhaven Harbour, two or three early British canoes, etc.

On leaving Lewes the rider proceeds down a steep hill past the station, and close to the ruins of St. Pancras Priory, which was founded in 1076, and the first of the Cluniac order in England. The road passes through Southover, and is very gently up and down to Rodmell and Southease—a small village with a Norman church, standing almost alone—and thence to Piddinghoe, which presents as it is approached from Lewes, a peculiarly attractive view. A level road follows, which terminates in an ascent to the top of Newhaven High Street, where the rider must turn to the left, and proceed past the Bridge Hotel, at which point he must bear to the right, and over a level crossing, where a sharp turning again to the right leads down to the quay, 58 miles from London Bridge.

A walk round the harbour may be indulged in as a "constitutional"; but beyond the Goods Station there is little to see, except a small fort and the very grassy remains of an early British earthwork, which lie close together on the right of the harbour mouth, looking seawards.

The charges for the conveyance of cycles and motor cycles from Newhaven to Dieppe and *vice versa* are as follows:—

	s.	d.
Bicycle	4	0
Tandem or triplet bicycle	6	0
Tricycle	8	0
Motor bicycle	6	0
Motor tandem	9	0
Motor tricycle	12	0

The railway company's definition of a motor cycle is: "A machine capable of being partially propelled by feet or hands."

The charges for motor cars are:

	s.	d.
Motor car with 3 wheels .	60	0
Motor car with 4 wheels .	80	3

The sea passage occupies about four and a half hours, or a little less in good weather, the distance across being 65 miles.

Riders of cycles and motor cycles will have no difficulty in passing the Customs at Dieppe without deposition of the duty—returnable, with some delay and difficulty, when leaving France within three months—provided that they be members of the Cyclists' Touring Club (Offices, 47, Victoria Street, London, S.W.), and can show their membership ticket for the current year. On its production, if a motor cycle is used, 60 centimes (about 6d.) has to be paid for a permit to ride in France, which is available for three months from the date of issue. If the motor rider proceeds by road to

FIRST PLOUGH USED IN SUSSEX 100 YEARS AGO, LEWES CASTLE.

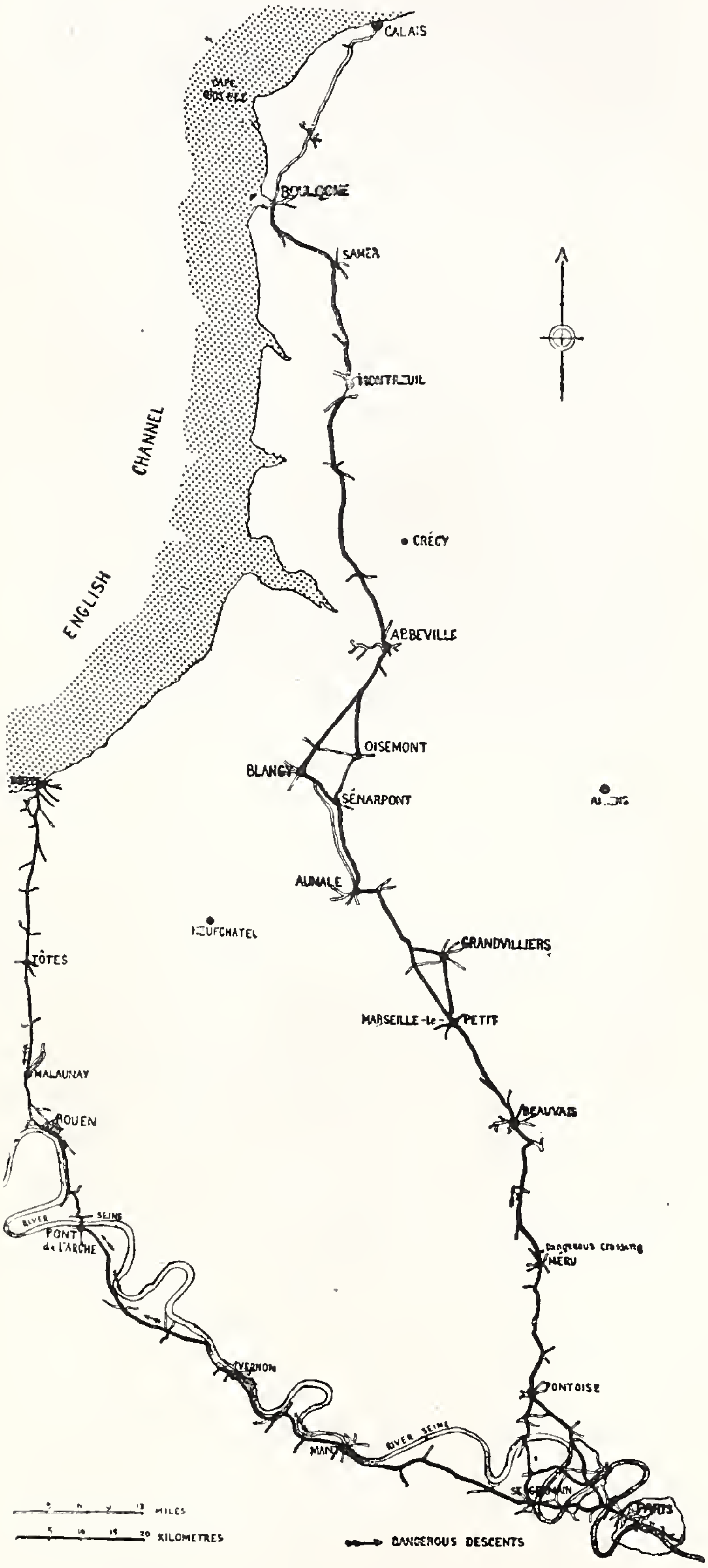
LEWES AND THE DOWNS FROM THE CASTLE.

SOUTHEASE NORMAN CHURCH.

PIDDINGHOE, NEAR NEWHAVEN.

Paris, he will have no difficulty in entering the latter city armed with this permit; but otherwise, it is likely that he will have to pass an examination in riding before an officer appointed by the Prefect of Police. However, the fact of the journey to Paris having been completed by road is likely—as in the case of the writer—to be considered as *prima facie* evidence of capability.

It is necessary, or at any rate as well, to be provided with a supply of visiting cards giving an address, to hand to the customs officers, and in all cases the machine must carry an engraved plate, bearing the correct name and address of the rider. The C. T. C. will provide such a plate at a nominal cost, at about four day's notice. On commencing to ride in France it must be remembered that the rule of the road is the reverse of that prevailing in England, that is to say, the rider passes vehicles on the right, and overtakes on the left. *This is essential.*



II.—DIEPPE TO PARIS.

Out of Dieppe there is a steep hill past the cemetery. The best way is to ask for the Rue Gambetta (La meilleure route Rue Gambetta pour Rouen, s'il vous plaît), and follow this until the Bureau D'Octroi is reached. Here the road forks, but the rider should keep to the left, which is, however, more nearly straight on, past the barracks, for about 2 kilometers. (1.6093 kilometres equals 1 English mile) when the road again forks, the right hand one (through St. Aubin) being the direct route to Rouen. About two miles beyond this point the rider should once more keep to the right to Crosville-sur-Scie. The road is one of the "Grandes Routes Nationales," and it is impossible to mistake the way. The highway is, however, disappointing, being narrow and rough in places, although fairly level. It is wonderfully straight, and the country is open and bare, the villages being few and far between, only an occasional group of one-storeyed cottages being passed.

Totes (17 miles) is the next town, and thence the road continues with only two slight curves to the summit of a hill, which must be considered as decidedly dangerous for the unskilful rider to attempt. It has a very sharp bend half way down, over a railway bridge, and at the bottom is another sudden turn and a very steep descent to the right into Malaunay (28 miles). Thence to Maromme the road is good, but now the *pavé* commences, and is of the vilest description and aggravated by a light railway on one side of the highway, which continues to Rouen, and for some little distance beyond that town. Deville is soon passed, although there is a better road which can be followed from Maromme into Rouen, coming in at the back by a steepish descent, which takes place a short distance before the town is entered.

The entrance to Rouen (35 miles) by the main road is disappointing, and comes somewhat as a shock to the tourist who has an eye for the beautiful, and has consoled himself for the miles of bad *pavé* with the thought of the picturesque town he is about to see. Rouen, as first seen, is anything but beautiful, the whole aspect being marred by the conversion of the river bank into a goods yard. Casks, boxes, and packages of all descriptions lie scattered about in great confusion, while the vandalism is completed by a huge suspension bridge which spans the river at a great height, and looks not at all unlike a travelling crane. The rider jolts past this hideous erection, until the Hotel D'Angleterre is reached, where the machine can be stowed away and the capital of Fair Normandy surveyed on foot.

To the Englishman who reflects intelligently upon the past, Rouen is a spot of peculiar interest, for, from the eleventh to the thirteenth centuries this country and Normandy were united under one sovereign. Rouen is first mentioned in history early in the second century under the name of Rothomagus, but its really interesting epoch did not commence until the time of William the Conqueror. Prior to this it was the capital of Rollo, the first Duke of Normandy. The city has undergone many sieges, the last being in 1591. The history of the town is sullied by one dark blot—the burning of Jeanne D'Arc in 1431. A statue to

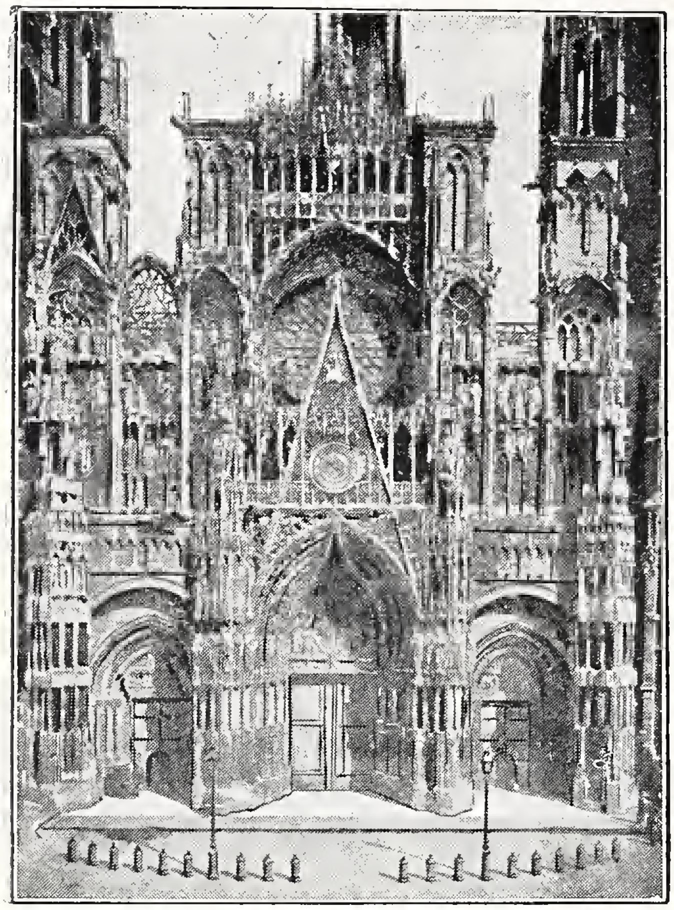
NEWHAVEN HARBOUR.

SUMMIT OF HILL OUTSIDE DIEPPE.

THE DESCENT INTO MALAUNAY, NEARING ROUEN. A DANGEROUS BEND.

LE QUAI DE PARIS, ROUEN.

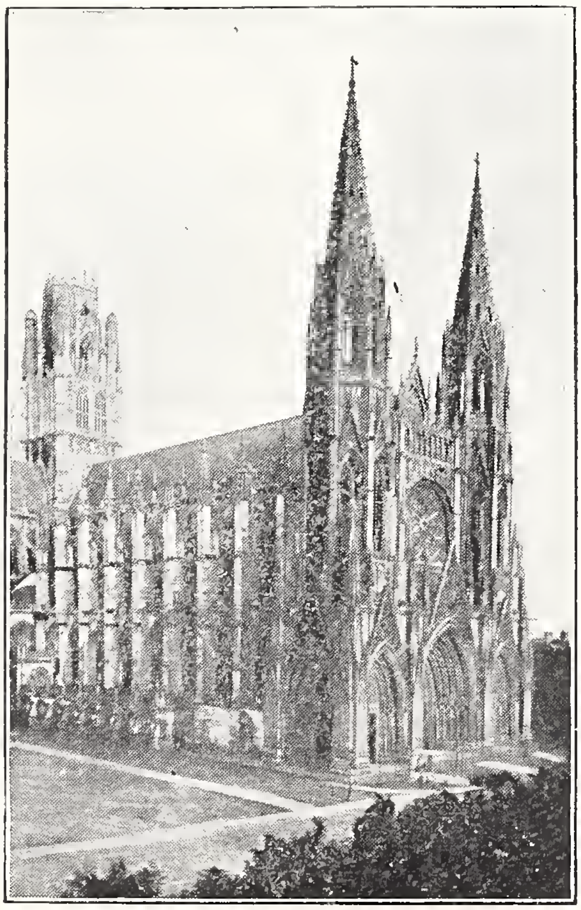
the Maid of Orleans overlooks the place from a kind of temple on one of the adjacent hills. The Cathedral is an object of interest, and near the High Altar is deposited the heart of Richard Coeur de Lion. The Abbey of St. Ouen, founded in 533, should also be visited, although it very much resembles the Cathedral.



ROUEN CATHEDRAL FRONT.

But Bonsecours is looked upon by the inhabitants as the show place. Why, I do not know, for it does not commend itself like the Cathedral, nor is the view better than that from the triforium of St. Ouen. It is reached by the upper Paris road—which is not the one to follow when the rider resumes his journey awheel—through the village of Blosseville. It is a favourite resort of pilgrims, and the visitor is frequently importuned, as he proceeds up the hill, to buy crucifixes and candles as an offering to the Virgin.

Leaving Rouen one ascends a steepish hill, the surface of which is *pavé* cut up by tramlines. At the fork near the summit the lower road should be followed down a steep hill and through a gate, where gendarmes appear to examine market carts, for taxable produce. The wretched light railway monopolises the road, first on one side and then on the other, along a highway which is becoming more and more picturesque.



ST. OUEN, ROUEN.

But the railway shortly ends, and the road comes out upon the east bank of the Seine, here dotted with low, well-wooded islets, the picture being enhanced by a rugged headland and, in the writer's case, by a storm. Just round the promontory the road descends to a small village, and high up in the rock on the left may be noticed a tiny church, which appears to form part of the cliff itself. Shortly after passing the village the road turns to the left up a long winding hill, and across a table land for a few miles, when it descends again to the river, which has made a sweeping curve, and crosses a long and narrow stone bridge to the small town of Pont de l'Arche.

Here the left hand road must be followed through St. Cyr, and after crossing two small tributaries to the Seine, the tourist encounters the most hilly portion of his journey. Indeed, one hill is so steep that a motor tricycle with a two and a quarter horse power motor, requires all the assistance a fairly strong rider can give in order to reach the summit. At a fork, where is erected one of the typical French roadside crosses, the road to the left is followed through Vironvay (before reaching which is a steep ascent) some fine views of the Seine being obtained *en route*, although the river shortly winds away through the hills to Les Andelys. The road continues straight on, and is undulating to Gaillon, whence, after a steepish rise, it falls rapidly to the bank of the Seine, which it follows to Vernon (70 miles).

Beyond Vernon the road follows the river bank, occasionally ascending somewhat, when excellent views are obtained. On one side of the highway is very bad *pavé* but the scenery in some measure atones for this. A lonely church on the left is passed, and then the road dips gradually towards Jeufosse and Bonnieres. Hence it undulates to Mantes, passing through one or two typical French villages, the main streets very bad *pavé* and the houses bearing a tumbledown and deserted appearance. Mantes is a fair-sized place, and at the end of the town the rider must bear to the left down a slight decline to Mézièrres, whence the right-hand road at a fork is followed to St. Germain-en-Laye. So winding is the Seine between this point and Paris, a distance of about 13 miles, that the river is crossed three times. The main road on to Paris is truly awful, nothing but *pavé* of the worst possible description through Chatow, Nanterre and Nuilly, and although it is better to follow the right-hand road at Chatow to St. Cloud and Boulogne, the surface is bad in any case—a remark which applies to most of the principal streets of Paris itself.

Upon entering the gates of Paris (118 miles) the cyclist or "motist" will most probably be asked for his permit, but when this has been produced, there will be no further trouble with the gendarmes.

ROUEN FROM THE BRIDGE LOOKING EAST.

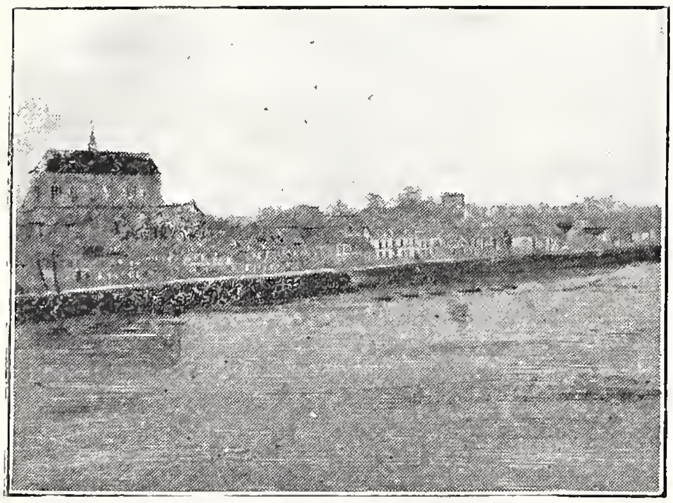
ROAD OUT OF ROUEN TO PARIS

A RISING STORM ON THE BANKS OF THE SEINE NEAR ST. CRESPIN.

A CHURCH IN THE ROCKS NEAR ST. CRESPIN.

ROADSIDE CROSS NEAR ST. PIERRE.

A ROADSIDE CHURCH NEAR JEUFOSSE.



PONTOISE FROM THE BRIDGE.

VILLAGE NEAR BONNIERES.

III.—PARIS TO BOULOGNE.

THE main road from Paris to Boulogne really passes through Beaufort and Noailles, but it is very bad, and the *pavé* is almost incessant for many miles. It is, therefore, better to make for Pontoise (18½ miles), though even the direct main road to this is all *pavé*, and very bad indeed. Footpath riding is permitted, but as the paths are cut up at about every hundred yards or so by deep transverse gulleys, there is not much to be gained by this. If the main road be followed to Colombes the rider is further harassed by tramlines, so that it is better to make a detour to St. Germain Laye and through the Forest of St. Germain, crossing the river, and passing through Conflans and Erugny to Pontoise.

This will add close upon four miles to the total distance, and still involves a good deal of bad surface and *pavé*. The suburban roads of Paris are not exactly what the cyclist, or the user of any light vehicle, desires, and, unless the rider can obtain a personal cycling guide, he will always find the routes exceedingly bad from a cycling point of view.

After passing through Pontoise the surface of the road improves rapidly to Enery, about three miles past which village are cross roads. Here the rider must turn to the left to Amblainville and Mére. At the latter town, the road to Noailles must be avoided by bearing slightly to the left. Just after leaving the town there is a very dangerous level crossing, approached round a sharp bend. If the gates are closed, there is only about twenty yards in which to pull up, so that great care must be taken till this crossing is left behind.

The road now begins to ascend by easy stages to Bois le Molle, and just after reaching it there commences a beautifully engineered descent, winding down the hills for a very considerable distance. The view on the right hand, shortly after the hill begins, is one of the finest on the road. Not far from the foot of the descent are cross roads, where the rider must keep straight on to Alloune, at which point he joins the Grande Route between Noailles and Beauvais (49½ miles), and, on turning to the left, he soon enters the latter town.

Beauvais is a fine old place with a capital hotel—la France D'Angleterre. It is well worth the tourist's while to make a stop here in order to look over the Cathedral de St. Pierre.

After leaving Beauvais *via* the Rue de Calais, the road becomes very fine, so far as surface is concerned, the stretch to Marseille-le-Petit having few undulations, and forming a typical piece of French highway, unprotected as it is by hedges or fences, only tall trees and an inner row of fruit trees dividing it from the farm and meadow land. After passing through Marseille-le-Petit, the Grande Route proceeds to Grandvilliers (68 miles), where the second main road to the left must be followed in the direction of Aumale. Some three miles or so may, however, be saved by avoiding Grandvilliers and following a straight bye-way to the left about a third of a mile beyond Marseille-le-Petit, and rejoining the Grande Route about four and a half miles on the other side of Grandvilliers.

From this point the road is straight to Fouilly and continues so for about five miles beyond that town, when, at cross roads, the turning to the left must be followed to Aumale (80 miles). In the town a sharp turn to the right is taken, the main road again diverging to the right, crossing the railway and then running parallel with the line to Sénarpont (89 miles). This is a bad stretch of road, rough and narrow, but the numerous roadside crosses

A TYPICAL STRETCH OF FRENCH HIGHWAY BETWEEN BEAUVAIS AND MARSEILLE.

ROADSIDE COTTAGES NEAR GRAND VILLIERS.

BOULOGNE.

BOULOGNE HARBOUR.

form objects of interest. They are now very frequent, scarcely a village being passed through without at least one such symbol of devotion. Many of the crosses are profusely decorated with flowers and fruit, brought as offerings by the peasants.

From Sénarpont the "Grande Route" goes to Blangy, where at the cross roads, the turn to the right must be followed. There is, however, a more direct way, with fairly good surface, by keeping to the right where two roads diverge just beyond Sénarpont, and, passing through Oisemont, keeping straight on through Fresne, rejoining the main road some six miles short of Abbeville which town is entered by way of Les Planches. Abbeville (100 miles) is a fair-sized place, and, after turning to the right close to the station, the rider should follow the road to the left to La Justice, where, at a fork, he bears to the left again to Nouvion-en-Ponthieu (109 miles) the road being straight and fairly good.

From Nouvion-en-Ponthieu to Bernay the highway skirts the Forest of Crecy which lies to the right, Crecy itself being some five to six miles eastward of Bernay. From this latter town the main road proceeds to Nemport, through Vron, and thence through Wailly to Montreuil-sur-Mer (126 miles) the character of the highway being hilly. Outside this town is a steep hill to Neuville, where the turning to the right must be followed for about 1½ miles, when two roads diverge; the one to the right leading to Samer (139 miles).

Another stiff rise is now encountered, followed by a sharp descent and yet another climb. At Samer the route bears to the left down a hill and up a sharp rise to Isques, where *pavé* is encountered. Just past St. Leonard there is a descent leading to the commencement of the Boulogne *pavé*, the road running into the back of the town, whence it is all down grade to the harbour and quay (148½ miles).

Boulogne-sur-Mer is apparently a thriving place, and a few hours may well be spent in looking round the town, preparatory to crossing to Folkestone.

The rates for the conveyance of machines from Boulogne to Folkestone are the same as those from Newhaven to Dieppe, but the passenger fare is cheaper.

The route from Paris to Boulogne is somewhat longer than that from Dieppe, and although it does not pass through any town of such historic importance as Rouen, the ride is interesting, and the road is certainly more suitable for light vehicular traffic and cycling, on account of the amount of unavoidable *pavé* being far less.

IV.—FOLKESTONE TO LONDON.

Upon landing at Folkestone (C.T.C. house, Tontine Temperance Hotel) the rider, after having had his luggage duly examined by the customs officers, enters the town and should immediately turn to the left, keeping to the left again a little distance further on thus avoiding a steep hill on his right, which leads up to the Lees. The Lower Sandgate road, as it is called, rises very gradually for some little distance, and at the summit of the incline is a tollgate, where twopence must be paid. It is, however, well worth this small outlay to travel by the lower road, because the way is more picturesque and interesting, while it also avoids a steep hill out of Folkestone (the first part being a narrow and often crowded street), and a somewhat dangerous descent into Sandgate. (C.T.C. house, The Sea View Hotel.) Even by the lower road there is a steepish decline into the latter place. At the foot of this slope Sandgate Castle (which was built by Henry VIII.) is passed on the left, and the rider should then turn down a narrow street on the right into the main road, on reaching which he must turn to the left. The road shortly comes out on the sea front, but care must be taken to avoid the tramlines which continue for some considerable distance. They are left, however, before Hythe is entered, the trams continuing by the sea, and the road bearing inland for a little distance. At Hythe the lover of the gruesome may inspect the skulls in the crypt of the old church.

Immediately after having passed through the town, the road diverges, the right hand one being followed and ascending a somewhat steep and fairly long hill. At the summit of this the main road turns to the right to New Inn Green, but it is worth while to turn to the left, down a narrow and winding lane, to visit Lympne Castle, which is only a little more than a mile away. The Castle can be viewed on payment of sixpence. Lympne, though only a tiny village, now quite inland, was the Portus Lemanus of the Romans, when the now distant sea swept against the foot of the cliff upon which the Castle stands, and—for those days—a flourishing harbour beneath sheltered all manner of queer craft. From the Castle a truly magnificent view can be obtained over Romney Marsh which stretches away seaward to Dymchurch, bounded by the Martello Towers and the famous Dymchurch wall, that holds the sea at bay and preserves the intervening marsh as feeding ground for countless sheep. Still further away is Dungeness Point, while the distant hills round Rye are plainly visible on a clear day.

From Lympne it is not necessary to retrace the whole of the distance to the top of the hill out of Hythe, for, if the second turning to the left be taken after leaving the village, the main road is rejoined at New Inn Green. Here the London road turns to the left, and the lane straight on proceeds to Westonhanger, near which is Fair Rosamund's Tower.

Turning along the main road, through Sellinge (10 miles), Smeeth, and Mersham Hatch, the

LYMPNE CASTLE.

KITS COITY HOUSE NEAR MAIDSTONE.

THE QUINTAIN, OFFHAM.

ST. LEONARD TOWER, WEST MALLING.

road is undulating until on reaching Ashford (17 miles; C.T.C. house, the "Saracen's Head") there is a sharp ascent into the town. More undulating road of good surface follows to Charing (23½ miles; C.T.C. house, "The Swan") where the road to the left must be taken to Lenham and Maidstone. After passing the former place, the highway skirts Leeds Park for about a mile and a half, and one or two glimpses of Leeds Castle, with its deep and wide moat, can be obtained.

The road enters Maidstone (35½ miles; C.T.C. house, "Ye Ancient Bell") by a somewhat narrow street, and proceeds straight down a hill and over a bridge across the Medway. Out of Maidstone the main road ascends a steepish hill, but, if the tourist does not mind a detour of a couple of miles or so, he can turn to the right in the town, and proceed along the Rochester road, shortly descending a hill and ascending another, near the summit of which he will see close to the road on the left side, Kit's Coity House—a Druidical cromlech of very similar type to that of Lanyon, in Cornwall, but not so large. After reaching this, he must retrace his way for a quarter of a mile, and then turn to the right down a lane leading to Aylesford, almost immediately passing on his left a group of rocks locally known as the Countless Stones, the legend being that no person can count them, although they are but few in number.

At Aylesford the road to the left across a bridge spanning the Medway should be taken, and the main London Road rejoined some three miles north-west of Maidstone. At the "Wheatsheaf" Inn, about two miles further on, a detour of about a quarter of a mile to the right can be made to Leybourne, where are some picturesque ruins of a castle. On returning to the main road a similar detour to the left to West Malling brings the tourist to St. Mary's Abbey, to which admittance can be obained upon contributing to the restoration fund. From this point it is worth while to follow the road down a hill until the Keep of St. Leonard is reached. This was built in 1070 by Gundulf, who was the builder of the White Tower in the Tower of London.

Continuing along the road, the village of Offham is soon reached, and on the green may be seen a quintain, the only one now standing in England. This relic of mediæval England is well worth a visit, and the whole detour does not add much to the day's ride, for the main road can be rejoined west of Offham and about three miles from Wrotham, the right hand way being followed where two roads diverge a couple of miles before the latter town is reached.

On entering Wrotham (46 miles; C.T.C. house, "The Bull") the road turns sharply to the right and then to the left up a very long and steep hill, on nearing the summit of which a lovely view can be obtained on the left. A couple of miles or so of fairly level road follow, and then there is a steep and somewhat dangerous descent into Farningham (52½ miles; C.T.C. house, "The Bull"), out of which place there is another long ascent, the lower portion being somewhat steep. At the top is Pedham Place, whence the road is undulating to Foot's Cray (58 miles). Beyond this there is a rather rough and hilly stretch with bad surface through Sidcup to Eltham. Here the road becomes distinctly bad and continues so through Lee Green, although the gradient is in the rider's favour to Lewisham (65 miles), where the London road bears to the right and then to the left, up a slight hill which is followed by a gradual descent to New Cross. Granite setts are now encountered along the Old Kent Road, Great Dover Street, past St. George's Church, and along the Borough High Street to London Bridge (70 miles), where the journey ends.

THE principal railway lines, the termini of which are given below, have branch offices all over Paris, where railway omnibuses for the conveyance of family parties and their luggage can be ordered. Luggage and tickets may, as a rule, be booked at these branch offices; but it should be borne in mind, that unless the traveller reaches them an hour before the departure of the train, he will not be able to get along comfortably.

GARE DU NORD (Northern Railway). 122 on Map. Place Roubaix. From or To:

England (via Dover—Calais and Folkestone—Boulogne), Belgium, Holland, Germany and the North of France and Europe.

GARE DE L'EST (Eastern Railway). 124 on Map. Place de Strasbourg. From or To:

Germany, Switzerland and Italy (via Switzerland), Austria (via Switzerland or Germany), Hungary, Roumania, Turkey, and all the East and North-East of France and Europe.

GARE ST. LAZARE (Western Railway). 57 on Map. Rue St. Lazare. From or To:

England (via Newhaven-Dieppe and Southampton-Havre), United States (via Havre and via Cherbourg, direct lines), Britanny, Normandy and all the West of France.

GARE MONT PARNASSE (Western Railway and State Railways). 239 on Map. Boul. Mont Parnasse. From or To:

The West and South-West of France.

GARE DE LYON (P.L.M. Railway). 151 on Map. Boul. Diderot. From or To:

Italy (via the Mont-Cenis or the Riviera), Switzerland, the Midlands and the South-Eastern part of France, the Riviera and the South of France.

GARE D'ORLEANS (P. O. Railway). 271 on Map. Quai d'Austerlitz. From or To:

Spain and Portugal, the Midlands and the South and South-West of France.

GARE DE LA BASTILLE (Eastern Railway). 150 on Map. Place de la Bastille. From or To:

Suburban Lines to Vincennes.

CHAMP DE MARS. Adjoining the Exhibition. 182 on Map.

INVALIDES. Adjoining the Exhibition. 205 on Map.

PARIS MAP REFERENCES.

The chief aim in preparing the accompanying Map of Paris has been to avoid unnecessary details by way of unimportant bye-streets and places which can have little or no significance for the average visitor. Main thoroughfares only are named, and the principal Public Buildings and Monuments, Places of Amusement, Railway Stations—in short, every point possessing special attractions is indicated thus ● in red, the number given relating to the references appearing in numerical and alphabetical order in the following pages.

I.—NUMERICAL ORDER.

1. Auteuil Church.
2. Auteuil Station.
3. Auteuil Race-course.
4. Church of the Assumption.
5. Lycée Moliére.
6. Passy Station.
7. Porte de la Muette.
8. Trocadéro Palace.
9. Passy Cemetery.
10. Bois de Boulogne
11. Longchamps Race-course.
12. Zoological Gardens.
13. Galignani Hospital.
14. English Church.
15. Wallace-Hertford Hospital.
16. Place de la Republique.
17. Buffalo Cycle Track.
18. Porte des Ternes.
19. Waterworks.
20. Statue of Washington.
21. Guimet Museum.
22. Galliera Museum.
23. Greek Church.
24. American Church.
25. United States Embassy.
26. Anglican Church.
27. Lycée Carnot.
28. Monceau Park.
29. Russian Church.
30. English Catholic Church.
31. Scotch Church.
32. English Chapel.
33. Carmelites Convent.
34. Statue of Shakespeare.
35. Ministry of the Interior.
36. Elysée.
37. Summer Circus.
38. Marigni Theatre.
39. Skating Rink (Ice).
40. Palace of Fine Arts.
41. Place de la Concorde.
42. Longsor Obelisk.
43. Place de la Concorde Fountains.
44. Tuileries Gardens.
45. Admiralty.
46. Champs Elysées Music Hall.
47. English Embassy.
48. Chaptal College.
49. Avenue de Clichy Railway Station.
50. St. Ouen Railway Station.
51. Montmartre Cemetery.
52. Hippodrome.
53. Moulin Rouge. (Music Hall.)
54. Society of Civil Engineers.
55. Casino de Paris.
56. Trinity Church.
57. St. Lazare Railway Station.
58. St. Lazare Terminus Hotel.
59. Suez Canal Company.
60. Comedie Parisienne.
61. Oller Museum.
62. Olympia Music Hall.
63. Grand Hotel.
64. Opera House.
65. Vaudeville Theatre.
66. Théâtre des Capucines.
67. Credit Foncier. (Bank.)
68. Ritz Hotel.
69. Ministry of Justice.
70. Place Vendôme and Column.
71. New Circus.
72. Hotel Continental.
73. Colonial Ministry.
74. Arc de Triomphe du Carrousel.
75. Gambetta Monument.
76. Louvre Museum.
77. Customs.
78. Place du Louvre.
79. Ministry of Finance.
80. Statue of Joan of Arc.
81. Fountain of the Place du Théâtre Français.

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International Exhibition, BRUSSELS, 1897.
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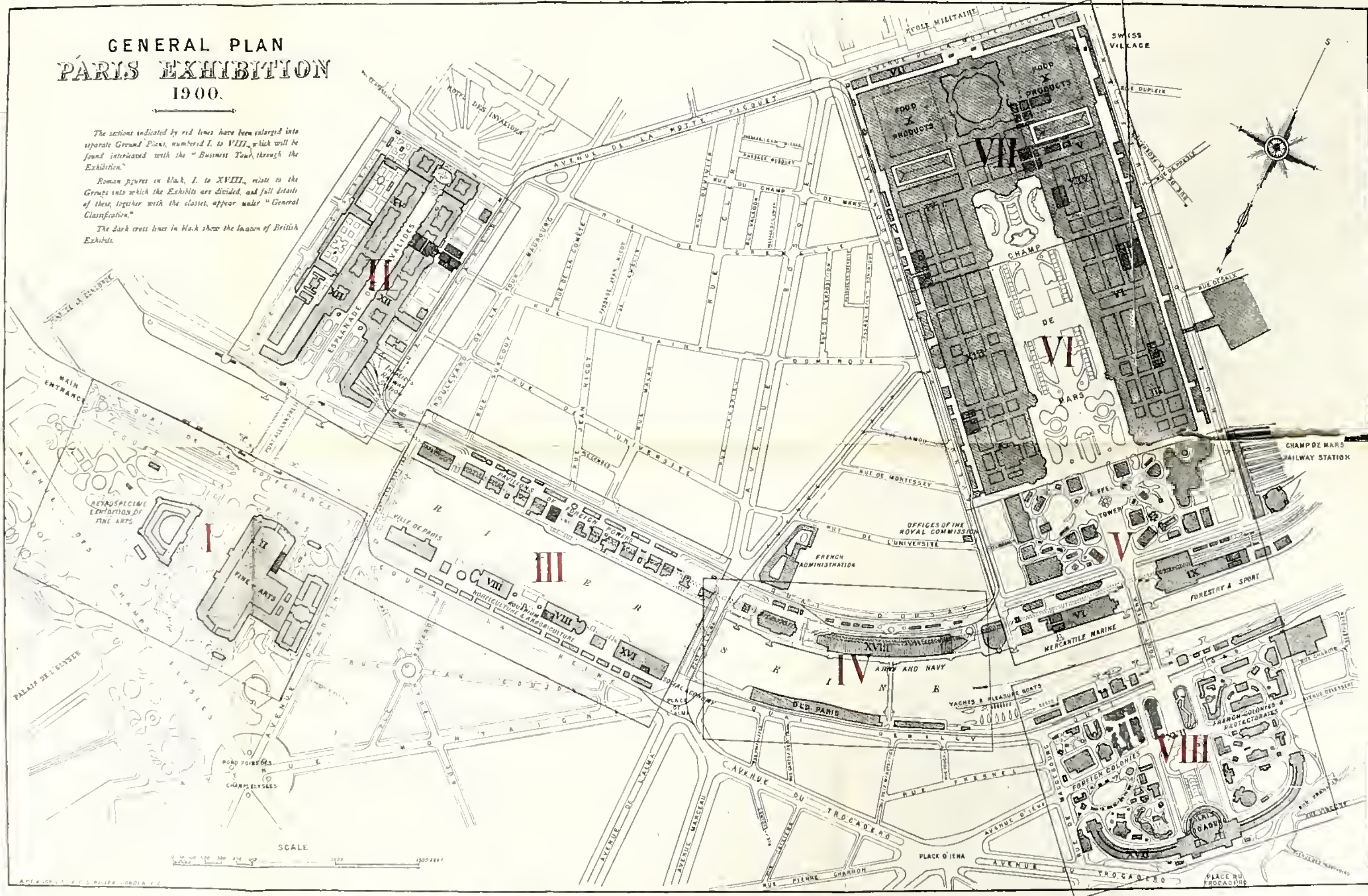

GENERAL PLAN
PARIS EXHIBITION
1900.

The sections indicated by red lines have been enlarged into separate Ground Plans, numbered I. to VIII., which will be found interleaved with the "Business Tour through the Exhibition."

Roman figures in black, I. to XVIII., relate to the Groups into which the Exhibits are divided, and full details of these, together with the classes, appear under "General Classification."

The dark cross lines in black show the location of British Exhibits.

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82. Comédie Française.
83. Palais Royal.
84. Gardens of the Palais Royal.
85. Orleans Gallery.
86. Corn Exchange.
87. Central Markets.
88. Théâtre du Chatelet.
89. Chamber of Notaries.
90. Sarah Bernhardt Theatre.
91. St. Eustache Church.
92 Chief Telephone Office.
93. General Post Office.
94. Statue of Louis XIV.
95. Bank of France.
96. Théâtre du Palais Royal.
97. Molière Fountain.
98. Republican Guard Barracks.
99. National Library.
100. Théâtre des Bouffes Parisiens. (Comic Opera.)
101. U. S. A. Consulate.
102. Bourse.
103. Credit Lyonnais. (Bank.)
104. Opera Comique.
105. Théâtre des Variétés.
106. Théâtre des Nouveautés.
107. Public Auction Rooms.
108. Grevin Museum.
109. Necropolis Co.
110. Medrano Circus.
111. La Cigale. (Music Hall.)
112. Théâtre Trianon.
113. Panorama.
114. Bd. Ornano Railway Station.
115. La Chapelle Railway Station.
116. Marcadet Railway Station.
117. Eastern of France (girdle) Railway Station.
118. Pont de Flandre Railway Station.
119. General Slaughter Houses.
120. Villette Docks Custom House.
121. Municipal Lunatic Asylum.
122. Northern of France Railway Station.
123. Rochechouart Swimming Baths
124. Eastern of France Railway Station.
125. St. Lazare Prison.
126. St. Martin Military Hospital.
127. Folies Bergère. (Music Hall.)
128. Comptoir d'Escompte. (Bank.)
129. Academy of Music.
130. Théâtre du Gymnase.
131. Théâtre Antoine.
132. Théâtre de la Porte St. Martin.
133. Théâtre de l'Ambigu.
134. Théâtre des Folies Dramatiques.
135. Prince Eugene Barracks.
136. Hotel Moderne.
137. Théâtre de la Republique.
138. Théâtre Dejazet.
139. Théâtre de la Gaîté.
140. Winter Circus.
141. Octroi.
142. Town Hall.
143. Chief Municipal Pawn Shop.
144. National Archives Building.
145. National Printing Offices.
146. Gendarmery Barracks.
147. Powder and Saltpetre Factory.
148. Place de la Bastille.
149. Colonne de Juillet.
150. Vincennes Railway Station.
151. Lyons Railway Station.
152. Théâtre Coris Lesage.
153. Belleville Railway Station.
154. Herold Hospital.
155. Pantin Tobacco Factory.
156. Tourelles Barracks.
157. Belleville Cemetery.
158. Menilmontant Railway Station.
159. La Roquette Prison.
160. Charonne Railway Station.
161. Reuilly Barracks.
162. Place de la Nation.
163. Picpus Cemetery.
164. Rothschild Polytechnic.
165. Rothschild Orphanage.
166. Reuilly Railway Station.
167. Bois de Vincennes.
168. Paris, Lyons and Mediterranean Station.
169. Orleans Railway Station.
170. Gentilly Railway Station.
171. Montrouge Railway Station.
172. Post and Telegraph Stores.
173. Fustado Heine Workshops for the Blind.
174. St. Pierre de Montrouge Church.
175. Manœuvring Ground.
176. Auteuil Bridge.
177. Mirabeau Bridge.
178. Place Dupleix.
179. Grenelle Bridge.
180. Passy Bridge.
181. Jena Bridge.
182. Champ de Mars Railway Station.
183. Eiffel Tower.
184. Exhibition.
185. Graydon Great Wheel.
186. Alma Bridge.
187. Tobacco Manufactory.
188. Panorama.
189. St. Pierre Church.
190. Military School.
191. Monument of National Defence.
192. Municipal Barracks.
193. Mount Carmel Convent.
194. The Clarist Convent.
195. Artesian Well.
196. Buffon College.

197. Pasteur Institute.
198. The Franciscan Brotherhood.
199. The Franciscan Convent.
200. Hospital for Sick Children.
201. Asylum for Blind Children.
202. St. Louis Church.
203. Invalides Building and Museum.
204. Esplanade des Invalides.
205. Invalides Railway Station.
206. Invalides Bridge.
207. Alexandre III. Bridge.
208. Concorde Bridge.
209. Foreign Office.
210. Palace of the President of Chamber of Deputies.
211. Chamber of Deputies.
212. War Office.
213. Archbishop's Palace.
214. Offices of Telegraph Wires.
215. Ecclesiastical Ministry.
216. Ministry of Agriculture.
217. Russian Embassy.
218. Italian Embassy.
219. Austrian Embassy.
220. Bouchardon Fountain.
221. Foreign Missions.
222. Lainnec Hospital.
223. Solferino Bridge.
224. Palais de la Legion d'Honneur.
225. Deposit Receipt Office.
226. Ministry of Public Works.
227. Pont Royal.
228. Pont du Carousel.
229. Pont des Arts.
230. School of Eastern Languages.
231. School of Fine Arts.
232. Mint.
233. Government Survey School.
234. Chaute Hospital.
235. School of Medicine.
236. Geographical Society.
237. Bon Marché Stores.
238. Military Prison.
239. Mont Parnasse Railway Stat.
240. Southern Cemetery (Mont Parnasse).
241. Entry to Catacombes.
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244. Theatre des Gobelins.
245. Gobelins Manufactory.
246. Prison de la Santé.
247. Observatory Office.
248. Cochin Hospital.
249. Deaf and Dumb Institute.
250. Zodiaque Fountain.
251. Pharmaceutical School.
252. Mining School.
253. Luxembourg (Senate) Palace
254. Luxembourg Museum.
255. Théâtre de l'Odeon.
256. Place St. Sulpice and Fountain.
257. Medical College.
258. St. Sulpice Seminary.
259. Place St. Michel and Fountain.
260. Cluny Museum.
261. College de France.
262. Louis le Grand College.
263. St. Geneviève Library.
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270. Economic Institute.
271. Orleans Railway Station.
272. Pont Neuf.
273. Statue of Henry IV.
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276. Civil Courts.
277. Pont au Change.
278. St. Michel Bridge.
279. Principal Paris Hospital.
280. Notre Dame.
281. Pont d'Arcole.
282. Pont au Double.
283. La Morgue.
284. Pont Louis Philippe.
285. Pont St. Louis.
286. Pont d'Austerlitz.
287. Pont Marie.
288. Pont de la Tournelle.
289. Monument of Baryes.
290. Pont de Sully.
291. Pont de l'Archevêché.
292. Pont de Bercy.
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MACDONALD.—"EIGHTEEN FRANCS FOR A BED! YE SURELY KEN I DINNA WANT TO BUY THE BED."

MULTUM IN PARVO.

POSTAL ARRANGEMENTS.

ALTHOUGH no one sending business letters should rely upon a prompt despatch of correspondence from the Exhibition grounds, those anxious to give friends a souvenir of their visit may with safety throw in their letters, which will bear the Exhibition stamp. Letters may also be posted at the top of the Eiffel Tower, which will bear a special stamp giving the date of the ascension. Two telegraphic and telephonic offices are installed, one in the Avenue de Suffren, and the other in the Quai d'Orsay. Five others will be installed. Letters for London may be posted in Paris up till a quarter past seven with a 2½d. stamp, and till half past seven with a supplementary stamp of ½d. If posted at 8.35 p.m. at the Gare St. Lazare, or by 8.50 p.m. at the Gare du Nord, letters will be distributed in London at 8 o'clock or 10 o'clock respectively next morning. All postcards are available either in France or England. The price is one penny. The cost of telegraphing in Paris is one halfpenny the word, and twopence for a wire to England. It is never well to rely upon the "carte telegramme" either opened or closed, as they are delivered in the most careless manner, and frequently three or four hours elapse in covering the shortest distance. The slight extra cost of paying the cost of a telegram is money wisely spent.

ON TIPS.

Practically every "show" is run in Paris on the principle that the public pays the wages of the servants. The waiters in the cafés and restaurants receive no wages, but have to pay for the permission to serve, and the money has to be handed over every morning before they are allowed to put on their aprons and throw their serviette across their arms. It is notorious that at one time the Café de la Paix paid its huge rental with this money. These may be taken as the regulation tips. On a "course"—that is to say, when a cabman is engaged to drive to a certain and fixed destination—the pourboire is 2½d. If it is by the hour, 5d. is liberal. It should also be clearly borne in mind that in taking a cab it is absolutely necessary to say whether it is by the "course" or by the hour, as otherwise the cabman has a perfect right to charge a separate fare for every occasion on which his cab is stopped by the hirer. It is as well to remember, and this may be of use when the cabman demands some extortionate price,, that it is only necessary to say to him "Drive to the nearest police station," and there you have him entirely in your power, for it is obligtaory on his part to give his fare a printed slip with his number on directly he is called up from the rank, and, failing this, he is fined heavily. As a matter of detail, he always forgets to give it, and the Commissaire of Police is always on the side of the fare. Never tell a cabman whether you require him by the course or by the hour until you are in the cab.

Mark Twain notwithstanding, the best barber in Europe is the Frenchman. The standing price is 2½d. for a shave, which includes a wash and a brush up. The tip is one penny. It is as well to clearly understand what price is fixed for the "friction," which the attendant attempts to foist on you, and it is generally as well to be contented with a shave and have done with it. Very strange prices are charged for these frictions if the proprietor sees that you are a foreigner.

To take the waiter, who is, after all, the apotheosis of the tipping system, the prevailing law in his Jungle is this. A penny is expected for each service; that is to say, if you are alone a penny is sufficient for any number of drinks that you may be served with. If it is a party of two or three, twopence or threepence should be given. All the writing paper and envelopes that you may want he will supply you with gratis, and, in case of your requiring any newspaper, he is bound to produce it, even if he has to buy it himself. In all the better-class cafés two and three cyclists are kept, whose duty it is to carry messages all over the city. The usual tip in this case is a franc. Where there are orchestras a similar tip prevails if the visitor asks the chef d'orchestre to play any special tune, but otherwise twopence thrown into the collecting plate is a fair average. Always, and this is an important point, see that the garçon immediately removes the soucoup—otherwise the saucer—directly the refreshments are paid for, as otherwise an attempt may be made to charge a second time.

Tips in restaurants are practically run on this scale. The tip is never less than twopence a head, and the system is to pay one penny in the franc after two francs has been passed. It is always well to try to secure the same table in a restaurant day by day, as the garçon can be relied upon in looking after you twice as well.

FALSE MONEY.

One of the greatest swindles practised on the foreign visitor is the cheating in useless money. Strange as it may seem, no French piece of 50 centimes, or one franc that bears date earlier than 1864, is of any value. All South American silver coins are valueless, the Italian pieces are useless, and any Swiss piece where the figure on the reverse is sitting instead of standing is so much tin. The safest and the soundest way is for the customer to pick up the first piece that the waiter puts on the table in giving change. Directly he sees this attention he rarely attempts to pass on the valueless pieces of which his pocket is full, and which, in spite of all the attempts of the police, are brought in by tons and thorough attention on the part of the garç is secured.

HOTELS.

One of the very best investments that can be made by those who intend to live in the hotels, is to quietly pass a tip into the hand of the waiter, who will look after your table, and the garçon who will brush your clothes, see to the bringing up of your letters, and so forth, on *arriving* at the hotel. This is a trick common to old travellers, and the result is invariably satisfactory, for the best cut from the joint is reserved for you and thorough attention on the part of the garçon is secured.

ENGLISH JOURNALS.

The English papers are on sale on the boulevard kiosques at half past six in the evening. The price of a penny paper is 2½d., of a halfpenny paper 1½d., of a sixpenny paper, one franc. An excellent cup of tea, where all the English papers and magazines are to be seen, can be obtained at Neale's Library, in the Rue de Rivoli (corner of the Rue Cambon), for a nominal sum.

OMNIBUSES.

It is utterly useless to rely upon the Paris omnibus service with the slightest confidence. There is no question of "first come first served."

It is necessary to take a numbered ticket and await your turn, and particularly on Sundays the waiting is interminable. The price for an outside seat is 1½d., and for the inside 3d. The latter ticket gives the right to a *correspondance* ticket, which must be asked for from the conductor when he collects the fares. With this ticket the rider has the right to enter any 'bus starting from the station where the original omnibus stops and without any further payment continue his journey. But he must clearly *show his correspondance ticket to the conductor* when he enters.

RAILWAYS—A WARNING.

The bulk of the visitors to the Exhibition will be carried by the Chemin de Fer de l'Ouest from the Gare St. Lazare, as there has not been the advancement in regard to the Metropolitan Railway and the extension of the Orleans Railway that was expected. Late in the day the company decided to adopt the English system and make the entrance to the carriages flush with the platforms. As a matter of fact, at some stations the platform is flush, but in many instances very dangerous accidents may arise to those who step out carelessly.

WATER.

On no account drink Paris water. Practically everywhere the syphon of seltzer water may be used gratuitously. To drink Seine water in June, July, and August is to go out of the way to court danger.

FOR SMOKERS.

Avoid all expensive cigars. The best cigar at the price, and, from an English point of view, a good deal beyond the price, is the Deputé, a cigar that is specially manufactured for the deputies in the Chambre, and is sold at three halfpence. Decent Havana smokes vary in price, and can be had at prices ranging from about 60 centimes to several francs.

CABS.

Some hints as to how to treat the Parisian "cabby" have been given under the heading of "tips," on page 131. If hired to drive to a given place (une course), no matter how far distant, the fare is 1½ francs. The charge per hour (à l'heure) is 2 francs. Be sure not to take a cab with four seats, like our four-wheelers, unless you require to seat four people, as the fare is exactly double.

SOME DO'S AND DON'TS.

Hints to Travellers from London to Lutetia.

IT is always as well to crowd into the fewest possible words any hints to the inexperienced traveller, and as briefly as is possible we give these hints.

If you are travelling with only a Gladstone bag, or with very light luggage, *don't* register it through to Paris. The delay at the Paris stations is interminable, and frequently extends over an hour and a half. At the landing station the whole thing is through in a few minutes, and in nine cases out of ten the Customs officers will pass the luggage on the assurance of the visitor that there is nothing exciseable.

Don't attempt to take in matches. In regard to these the French are pitiless, and the fine on every non-declared match is one franc, and in a case where the authorities find boxes hidden away in overcoat pockets, and which have not been declared, imprisonment may follow, and the fine inflicted will render the visit a disappointing affair.

Don't with a second class ticket attempt to use the first class cabin and take your coffee in the smoking room on deck. It looks simple, but every passenger is marked on the quay, and in austere tones the supplement is demanded by the officials on board.

Do always when the boat is in port and invaded by the porters give your instructions clearly to the men and hand over your baggage. It costs a franc, but you may be certain that they will find the best places in the railway carriage. It is an understood thing amongst them to secure the best places for those who pay them, and as there is a question of hours between the departure from the coast and the arrival in Paris, a franc cannot be better invested.

Don't get out at any of the stopping places in order to either eat or drink. Take a flask and a hamper. The knives are so blunt that you cannot cut through a sandwich with them, and it is only when the bell for the starting of the train is ringing that boiling hot coffee is served!

Do always on arriving either on the boat or in France secure your places, and particularly on the boat. The more luggage that you can crowd into your bunk while waiting for the departure of the packet the better, as a hat box or a rug are removed unostentatiously and you are left bedless.

In all dealings with the Customs officials both in the port and in Paris, be perfectly frank. If you show at once packets of cigarettes and tobacco or tea, and declare at once that it is for "personal use," they say nothing.

A telegram to the steward asking him to reserve a berth is not money lost.

Don't arrive in Paris without having clearly arranged where you are going to stay; and clearly understand the price you are going to pay. There are at the present time hotels that are knocking down walls so as to turn bedrooms into so many barracks, where twenty and thirty will sleep in one common chambre.

Arrange by letter the nature of your apartement, the storey it is on, whether it looks on the street or the courtyard, whether there is to be a light and attendance charge, whether there is to be an obligatory early morning breakfast, and if so, what is to be the price, and, in point of fact, deal with the hotel keeper as being a mortal enemy to your pocket.

As to the cabman who will drive you to the hotel, give him the address distinctly, and do not stop on the way, as he will otherwise charge two fares. If he disputes, as he is practically certain to do, order him to drive to the nearest police station, but the safest way is always to leave the hotel people to pay and charge it on your bill.

And above all, have nothing to do with the guides that importune on the boulevards. They are in general recruited from the scum of foreign prisons, but speak a passable English. An appeal to the owner of the hotel will always put you in communication with a sound and reliable man, but the wandering guide is a dangerous shark in the employ of fifth rate cafés and low class music halls and eccentric cafés.

Let every tourist remember one little thing. Buy a caustic pencil The wood brought from all parts of the world is the means of introducing dangerous insects, and what may be nullified by an immediate application of this simple little antiseptic may avoid a dangerous illness.

Don't leave your hotel or boarding house without plenty of small change about you. The average Frenchman who requires a tip is as well pleased with a few centimes, at the outside half a franc, as his English confrére in a similar position would be with a shilling or two. Want of coppers and half-franc pieces will cost you dearly if your stay is for any length of time, as vendors of newspapers, catalogues, etc., have a knack of always being without change.

There is no necessity in these enlightened days to be armed with a passport for travelling in France or staying in Paris. Still, it is advisable to carry this document wherever possible. There is little or no trouble in procuring it, and it will often prove of use to establish a traveller's identity in the obtaining of delivery of registered letters, and the gaining of admission to museums and other public buildings on "off" days.

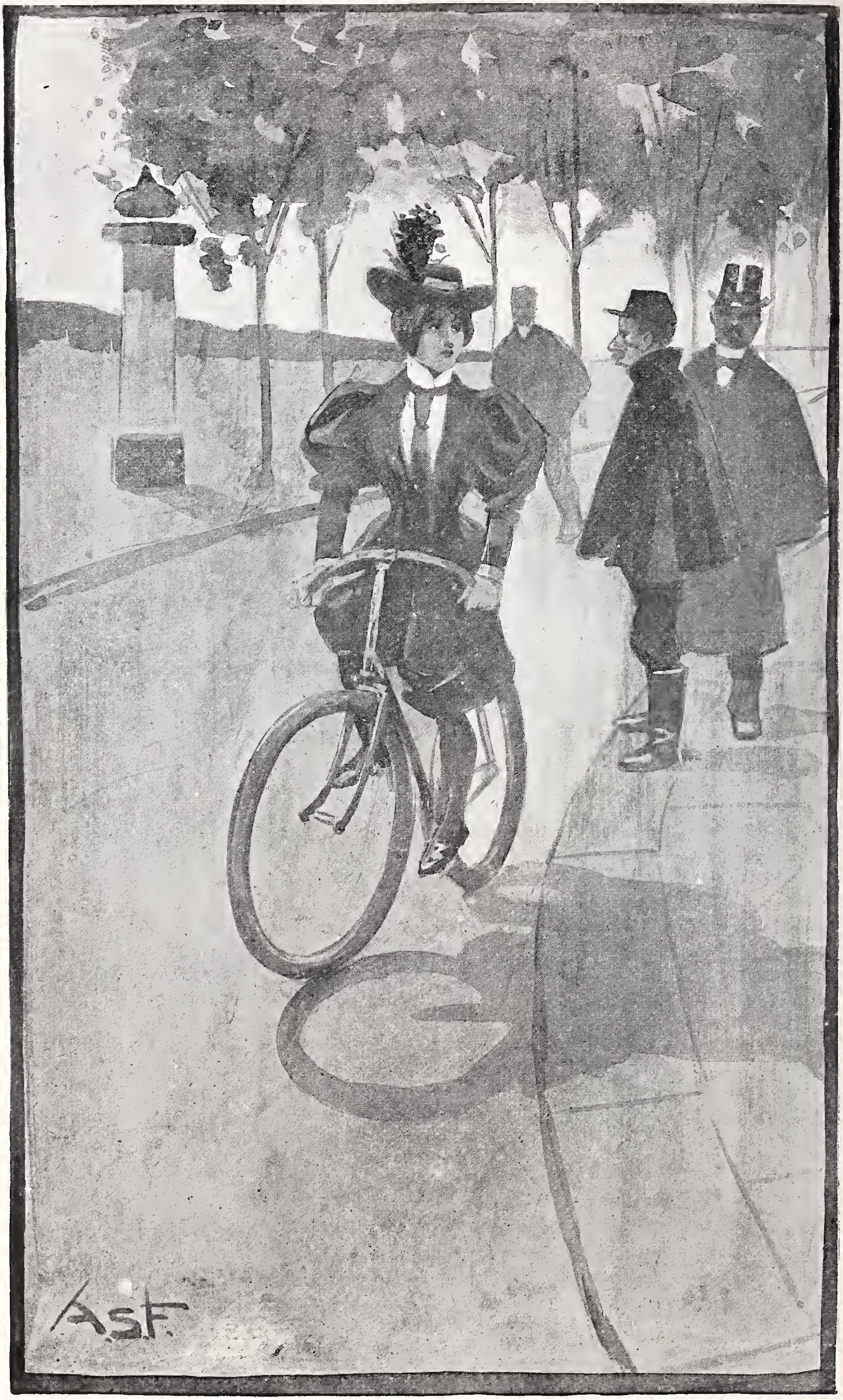
Don't take the railway time to be the correct time. Most railway clocks are kept five minutes fast for the benefit of travellers who are in the habit of being late.

HE.—"HOW DO YOU LIKE PARIS?"
SHE.—"SPLENDID. I'M BECOMING QUITE A PARASITE."

PARIS BY DAY.

ONE of the most fatal mistakes that the visitor makes is to attempt to see too much in too little time in Paris. A careful and well-thought-out programme, arranged beforehand, would enable him at the end of a week to have seen all that was the most attractive and historical in the gay city. Unfortunately he neglects to do this. He starts from the centre of Paris, from the Place de l'Opera, when the real starting places should be from the outskirts. To thoroughly appreciate Paris it is well to be about early in the morning, and the earlier the better. There is a novelty that no other city suggests. At the Halles, for instance, more of real palpitating Paris life will be seen than at any other period of the day. It is one blaze of light from year's end to year's end, and all that is picturesque in the night life of a great and sleepless city is shown. Mile after mile of carts rumble in, carrying in the luncheon and dinner of Lutetia, and under the glare of the electric lights are gathered together all the types of the French peasantry.

There are the blouses of Normandy, the harsh-sounding sabots of Brittany, and on all sides a *patois* that is hardly comprehensible even to the Frenchman is uttered. But apart from these honest peasants the



PARISIENNE.

PARISIEN.

most dangerous criminals that are known anywhere are met with. Generally swarthy and assertive, they march from one night café to another, and, like wolves, they only hunt in packs. If any one is foolish enough to follow them into their burrows, he must keep a civil tongue and accept many insults. And the word "burrows" is used advisedly. The cafés that they frequent are in general three storeys below the ground, and the mirrors are protected with wire—as there is always a fight. But a visit to the Quartier des Halles is a lesson to the Englishman, for he sees Paris in its varying phases.

Leaving the Halles with the warmth and light of dawn, and bidding good-bye to the hawkers, who wheel away their barrows and give their musical street cries, the best thing to do is to cross the gardens of the Louvre and take the boat to St. Cloud. It is only a question of a penny halfpenny, and the run gives a splendid idea of the Exhibition and more than that of riparian Paris. The famous Island of Robinson Crusoe, where duels are fought and marriages celebrated, is passed, and everywhere there is the up-river life of Paris in its brightest frame. Breakfast at St. Cloud, but for choice go up the hill and secure a seat outside any of the cafés, and at your feet lies one of the most gorgeous panoramas of Paris in the distance that can be imagined.

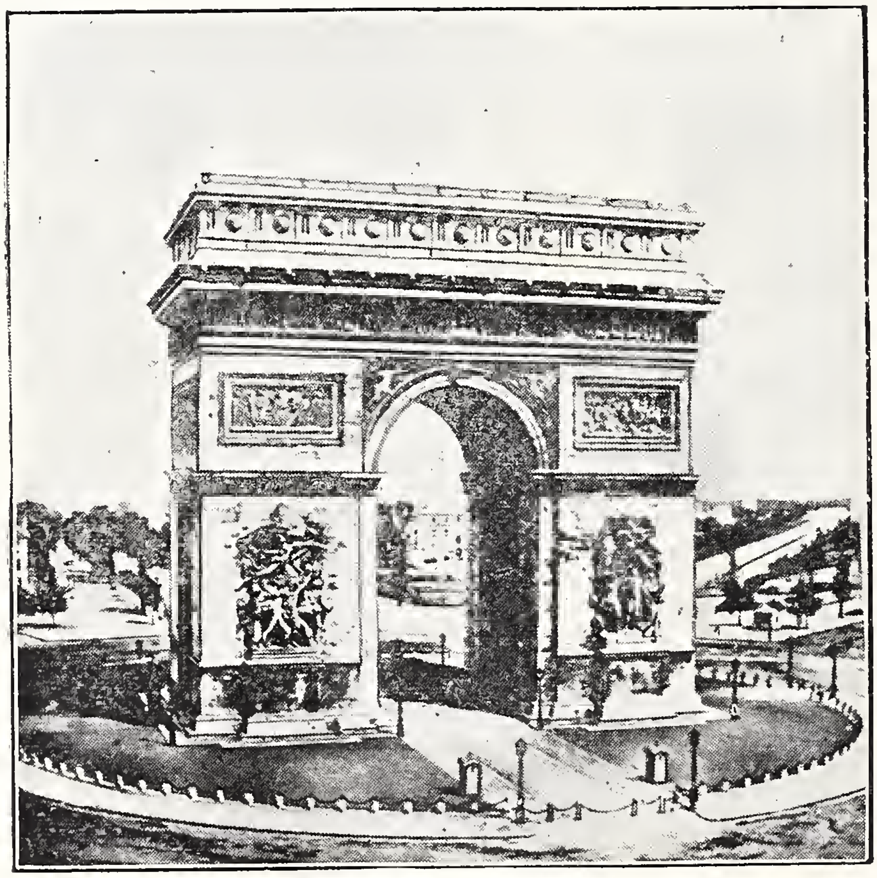
Afterwards cross the bridge and spend an hour in the Bois de Boulogne, and, taking your time lazily up to the Porte Maillot, where excellent luncheons can be had for a very reasonable price. From the Porte Maillot take the train to St. Lazare and feast your eyes on old Paris on the hill of Montmartre, for only a few more months are left before Montmartre will cease to exist, and every inch of ground is being bought up by the builders. The old church that is dominated by the huge Basilique of the Sacré Cœur is full of interest, and its story of over one thousand years is well told by the verger, who is particularly courteous to English visitors. The same may be said in regard to the Sacré Cœur, and although no tip can be offered to the attendant, a small donation should be left in the Poor Box. From the hill, Paris is seen as she can be seen from no other stop, and the old-fashioned auberges and cafés leave an impression that one has stepped back into the Middle Ages. Everything is calm and dreamy as if there were no noisy teeming Paris down below, and everything suggests a far-off Normandy village.

The calmest way to finish a long day is to go to the Luxembourg Palace and wander through the galleries, and go into the gardens to see the Paris children at play. There is nothing more picturesque and amusing, and a healthily spent day gives an appetite for a dinner and an evening's drive down to Armenouville in the Bois de Boulogne, where all that is fashionable and famous in Paris life assembles. The music is excellent. Not to crowd too much on the scenic side of Paris life, a few more idle hours may with advantage be passed in the morning in the gardens of the Tuileries, and no more beautiful grounds than these exist in the world.

A visit to the Louvre Galleries is inevitable, but it is well to map out a plan of the visit there, as otherwise there is only a muddled idea of many pictures and nothing absolutely clear and well defined. To the art lover the Rubens section deserves a whole hour to itself, and then, if the visit is only a short one, a scramble through the galleries filled with the historical pictures is time well spent. Practically all the attendants speak sufficient English to be understood, and every assistance is given with the best of grace. Leaving the galleries, nothing is more interesting than to stroll along the banks of the Seine. From end to end the second-hand booksellers hold their market, and the lazy hour that is spent after luncheon could not be more interestingly spent than in studying the strange old documents dealing with the Revolution and the Commune that are on sale.

The Palais de Justice has a certain attraction for the Englishman, and it is well to ask one of the officers on duty in which Chambre the minor offences are being dealt with. The difference in procedure between English and French courts is striking, and well worth studying. The Morgue is in close vicinity, and no Englishman ever visits Paris without seeing that sad home of the unnumbered dead. To those who love the gruesome it is well worth while to use any influence that they may be able to secure in order to get the authorisation of the Prefect of Police to explore its terrible mysteries. The few bodies exposed on the slates are mere detail, the horrors of the place are in the cellars,

where on the hottest day the temperature is kept at freezing point. In cases where murders have remained undiscovered, the bodies of the victims lie year after year frozen and covered with a hoar frost, waiting until the suspected assassin can go through the terrible ordeal of the "confrontation." Even more unnerving is the chamber reserved for the victims of recent murders. They are arranged in the way in which they were found, and we have still in our memory the cry of horror that escaped from a deputation of Englishmen sent over to study the French system of criminal hunting when they found themselves face to face with this Chamber of Horrors. The permit to see the Morgue in all its grimness is not easy to get, but much can be done with a ten-franc piece given unobtrusively to the attendant. It need hardly be said that the Morgue lies in the very shadow of Notre Dame, but purposely we refrain from dealing with the history of the churches, and even attempting a synopsis of their story. It is a pleasure to see the magnificent ecclesiastical buildings in Paris, that can be only understood by those who have studied carefully beforehand their story. The careless talk of the guide is valueless and misleading.



ARC DE TRIOMPHE.

CHURCH OF ST. GERVAIS.

THE ATTRACTIONS OF PARIS

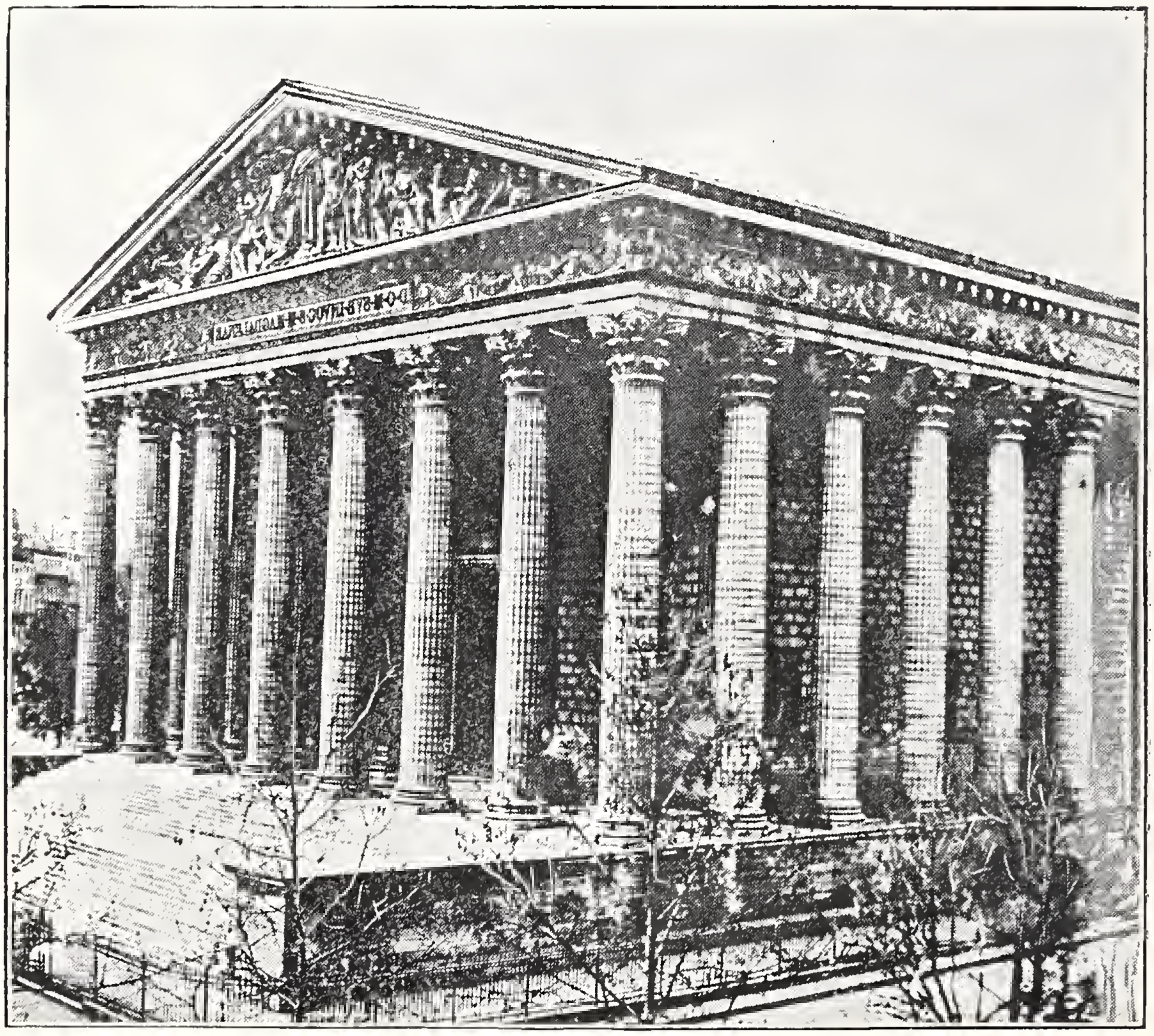
From a Photographic Point of View.

TO us islanders a journey to a foreign country generally proves an "eye-opener." Never more so, than when the visit is paid to gay and brilliant Paris, even at ordinary times, but when made during an Exhibition season it is a greater revelation still. In these modern days of incessant and universal travel, when distant places are brought near, and crossing the Channel is hardly considered, a traveller can no longer pose as a hero, and travellers' tales do not now excite wonderment and admiration, as in bygone years, for forsooth nearly everybody one meets is more or less a *voyageur*. However, the memory of past journeyings is precious to most, and one loves to go over the days in which one moved from place to place, either alone or in congenial company, to see again, with the mind's eye, picturesque scenery—to call up pleasing associations of the past. Since the days of good old Samuel Pepys, of diary fame, the chronicling of human doings has occupied much time and involved a considerable expenditure of ink and paper, resulting in numerous volumes. Although few amongst us care to read them, they serve as a record to mark the period when time, deemed to be of less value than it is now, apparently sped less rapidly. Yet but few amongst us would not desire some lasting mementoes of those sunny days, when our frail bark went sailing with "youth at the prow and pleasure at the helm."

Thanks to the camera, chronicles in these days may be made without having recourse to pens and ink; natural phenomena are pressed into our service, and the picture that is produced outlives us. Photographers in England are as numerous as the flowers in May, in which month they generally appear everywhere, country lane, city street, and sea-side resort being their chosen hunting grounds. In this free and enlightened Island the camera worker may pass without let or hindrance, and may move at his own sweet will, whithersoever he listeth; but on foreign shores, particularly in France, regulations exist which must be strictly observed, and rules are laid down which cannot be ignored. Paris is a paradise for photographers; there is so much to do, and the work is of so varied a character, that no matter what the amateur's special line may be, there will always be found more than sufficient to occupy the longest holiday in *la première cité* itself, which covers over 20,000 acres, within a circuit of twenty-four miles, as marked by the line of fortifications.

PERMITS.

A notice went the round of the English Photographic Press some time since to the effect that the Prefect of the Paris police had sent a circular to his subordinates, instructing them that painters and wielders of the hand camera require no special permission, "except in cases where they might be impeding the traffic." As a rule the photographer will not find his movements impeded in France so long as he steers clear of fortifications. But he will always be well advised to carry a passport as a constant companion to his apparatus, especially in country districts, where the *gendarme* is apt to be particularly inquisitive directly he espies a camera. In Paris the guardians of the "public safety" have more modern ways, and comparative, if not absolute freedom exists—anyhow, so far as the taking of photographs is concerned.



CHURCH OF THE MADELEINE.

CHURCHES are open all day, but Divine service being usually held morning and evening, those anxious to secure "views" should select noon or early afternoon for their operations. Should the services of the sacristan be required, a fee of half a franc will be expected.

MUSEUMS are, for the most part, open (without payment of a fee) to the general public on Sundays and Thursdays, from twelve to four. For photographic purposes it will be found more convenient and agreeable to pay a visit on ordinary days, when admittance may be obtained on payment of one franc.

MARKETS.—Cattle, Meat, Flower, and General, as well as the *Halles Centrales,* and the Temple, are accessible at any hour of the day; but, to see them to perfection, the early, that is, the business hours, in the morning, should be chosen; this especially refers to the *Halles Centrales.*

CATACOMBS.—To visit these permission must be obtained from "M le Directeur des Travaux, Hotel de Ville." This is not easy to procure, but a try should be made as they are really worth seeing. English and French tourist agents periodically make up parties for visiting the catacombs, the terms being very moderate. When special permission is granted it is generally for the first or third Sunday in each month. Each visitor must carry a torch, which may be purchased at the entrance in a pavilion on the right in the Place Denfert-Rochereau, the exit being at 92, Rue Dareau, near the Avenue Montsourfs.

THE MINT (*Hotel des Monnaies*) is the large building to the left of the Institute near the Pont Neuf. The Museum of Coins is open on Tuesdays and Fridays from 12 to 3 o'clock; permits may be obtained on application in writing from the Director, Hotel des Monnaies. Each order generally admits to workshops, etc., and will pass about four persons.

THE LOUVRE.

Should time permit, visits might be made to the Sevres porcelain works, a short distance out of Paris. The workshops are open on Mondays, Thursdays, and Saturdays, from 12 to 4. Orders for admission, to be applied for in writing, may be obtained from the Secrétariat des Beaux Arts, 3, Rue de Valois, but parties are frequently made up which strangers are able to join, in such cases, without personal tickets. The Exhibition Rooms are open daily to the public at the usual hours.

Vincennes, as one of the fortresses of historic note, is worth the attention of the visitor, BUT WITHOUT A CAMERA. To view the Chateau an order must be obtained from the Minister of War. The Chapel, however, can be seen on Sundays and fête days.

To the stranger unable to correspond in French, a form of application is here given:—

Monsieur—J'ai l'honneur de vous prier de vouloir bien m'adresser un billet pour ....* afin de visiter ....†. N'ayant que peu de jours pour rester à Paris, il me serait tres agréable de le posséder aussitôt que possible.

Veuillez accepter avec mes remerciments ma haute considérations, monsieur, Votre humble serviteur.

Signature........................

OUTFIT.

As photography in the streets during the Exhibition will not be an easy matter at any time, early rising will be a virtue to cultivate if some parts of the city are to be taken at all. As to outfit, it is not possible to recommend any one in particular. Each worker will be able to select his own, but to use a half-plate camera is to be advocated, as the views obtained by its means are in every way more satisfactory for album purposes. Should the larger size be inconvenient, a good quarter-plate outfit should be substituted, and several lenses, especially a good wide angle, which will be required for certain views and buildings, are necessary. Whatever make of camera is selected, let it be reliable, not only in the quality of negatives it will produce, but in the several workings. Avoid complications as much as possible; let every spring, shutter, magazine, roller, and button work absolutely free, and let every movement be perfectly understood, and every precaution taken, so that the apparatus may not get out of order; for, it must be remembered that, being away from home, make-shifts and dodges are not always within reach when one most needs them at a critical moment.

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* State Number of Persons. † State Place.

For work in Paris the pocket Kodak cannot be recommended, as it is too small, the photographic film measuring 2in. by 1½in. Views of this size, to be of any practical use, would have to be enlarged on reaching home, thus involving a loss of definition, besides giving an infinite amount of trouble without adequate compensation. It must not be understood that we are disparaging the usefulness of the midget—by no means, we only refer to work possible in Paris during the Exhibition of 1900. Streets and boulevards are, and will be, in a continual state of congestion, and the use of so small an apparatus will be impossible, and cannot serve any useful purpose, even were it practicable.

The larger size Kodaks, such as No. 2 Bull's Eye, 3½ by 3½, No. 2 Bullet, 3½ by 3½, No. 4 Bullet, 5 by 4, either of which will be found satisfactory in every way, inasmuch as they are daylight loading, which, to the tourist in a foreign country, is of the greatest utility, not to speak of their other advantages. The lenses fitted to the cameras mentioned may be either single or Rectilinear, R.R.

Another very useful apparatus for the tourist is the Frena, very simple in manipulation, and one which affords the widest scope for hand camera work, the forty flat films being easily carried, and the camera loaded with ease in the shortest possible time. The lens supplied is a Beck of the best quality; this will at once ensure perfect definition. Of the other hand cameras, whose name is legion, nothing but praise can be said, but, as plates are used with most of them, they are not quite so handy for travelling. There would, however, be very little difficulty in Paris, as the change of plates could be made at night, or by using one of the many dark rooms to be found in various parts of Paris, where all visitors during the Exhibition season will be courteously received. Although English brands and sizes of plates cannot possibly be obtained everywhere in Paris, at the places named in our list, they may be depended upon. It should be borne in mind that as the exposures made during the sojourn are to be kept undeveloped for some time, care should be exercised so as to preserve them from damp and intense heat. Both readily penetrate card boxes and paper wrappings. Heat affects plates and films equally, and each box or packet should, therefore, be enclosed in a sheet of tin-foil and placed in a tin box or case, in which they should be allowed to remain until they are developed. Such care is specially necessary in the case of films.

PHOTOGRAPHIC DEALERS.

Eastman Photo Materials Company, Limited, 4, Place Vendome.
Fribourg and Hesse, 26, Rue des Ecoles.
Hermages, 18, Rue Rambuteau.
Lievens, 20, Rue Richelieu.
J. H. Tunmer Bros., 10, Rue Gustave Courbet.

CATHEDRAL OF NOTRE DAME.

CHURCH OF ST. AUGUSTINE (INTERIOR).

HOTEL DE VILLE.

PHOTOGRAPHIC WORK IN PARIS.

The best thing to do, first of all, is to obtain a bird's-eye view of the city. This may be done from several points, the most central being the summits of Notre Dame, the Pantheon, the Tower of St. Jacques la Boucherie, the July Column, and the Vendome (if permissible). For more extended views, the heights of Montmartre, the Arc de Triomphe, in the Place de l'Etoile, to say nothing of the Eiffel Tower and Trocadero, may be selected. Having by these means obtained general views of the city, some idea will be formed of the extent and variety of the work possible.

The Architectural photographer will find special work which will enable him to study styles rarely to be found in England. The chief essentials for complete success in this particular line are—a camera, having a high rising front, bellows tapering but slightly, a swing font preferably to a swing back, and a rigid stand. Wide-angle lenses should be sparingly used. For ordinary interior work a fairly quick plate is necessary, which, of course, should be backed to prevent halation. A slow plate will be an advantage should there be any danger of flatness.

CHURCHES.

Of course the first Ecclesiastical building deserving special notice is the Cathedral of *Notre Dame*, and, owing to the wide open space in front, it affords a splendid subject for the photographic camera. A view should also be taken from the other side of the river, so as to take the beautiful slender spire, also the flying buttresses.

The Church of *St. Eustache* stands close to the markets (Les Halles Centrales) and is the second largest ecclesiastical building in Paris. The style is a mixture of Gothic and Renaissance. No difficulty will be experienced in the work of photographing this building, as the space is wide and open; advantage should be taken when the markets are less crowded.

The Madeleine is one of the most imposing buildings in all Paris, and is built on a Greek model. Standing as it does on a slight eminence it looks down the Rue Royal on to the Place de la Concorde; if photographed from the front care must be specially taken in focussing, as it stands considerably above the level of the street. A view from the side should also be secured, so as to take in as many as possible of the 52 splendid Corinthian columns by which the church is surrounded. The doors, which are of bronze, are also worth photographing, as they are of exquisite workmanship.

St. Vincent et St. Paul, in the Rue de Lafayette, is built upon the model of the early Roman Basilicas, and has twin towers on the façade. The portico is Ionic, with six fluted columns. This church is in every way worth photographing.

St. Jacques de la Boucherie, in the Rue de Rivoli, is situated within a small garden. The tower, the remains of an old church destroyed in 1797, is an exquisite specimen of the early sixteenth century style. A statue of Pascal and of St. Jacques are at the base and summit respectively.

Saint Chapelle, the finest specimen of Gothic architecture in France, in a small building adjoining, and attached to, the Palace of Justice. Erected in the thirteenth century, it is a veritable gem; but its general effect is sadly marred by the crowd of buildings by which it is surrounded.

The Pantheon, the church of St. Genevieve, the patroness saint of Paris, stands upon the highest ground of the city, is built in the Italian style, on the site of an ancient church of the same name. No difficulty will be experienced in photographing, as the thoroughfares here are wide and open.

St. Gervais, near the barracks, is worth a study. Although the portal is somewhat out of harmony with the rest of the building, it illustrates well the various orders, such as Doric, Ionic, and Corinthian, which combination cannot often be met with.

La Trinité, facing the Rue de la Chaussée d'Antin, one of the finest specimens of modern Renaissance, may be termed the "St. George's, Hanover Square," of Paris, and will appeal to the photographer on account of the elegance of its architecture and general appointments.

There are, of course, many other churches in Paris equally worth photographing, but those named are the most remarkable, and will serve as representative types, and for this reason they ought not to be omitted.

MARKETS.

A few snap shots may be taken in and about the Halles Centrales, but if the visitor should desire to see the business in full swing, the markets must be seen at sunrise, or as soon after as possible. In the early morning a few striking *genre* studies may be met with, and others should be sought.

The flower markets near the Madeleine and Notre Dame are worth several visits. These should be made at about eight o'clock a.m. Here good studies will be found, not only of the kind of articles sold, but also of the sellers, and, possibly, some of the purchasers—truly a mixture of all classes of people, hailing from all parts of the city.

FOUNTAINS.

Many of these are worth photographing, and should be done about mid-day, not necessarily when the water is playing, but at other times, so as to secure a good negative of the exquisite specimens of sculpture and statuary with which most of them are adorned. As it is impossible to take them all, a few only are mentioned here:—

Fountain Cuvier, Rue Cuvier.

Fountain des Innocents, near the Halles Centrales.

Fountain Richelieu, in the Square of the same name.

Fountain de Médécis, in the gardens of the Luxembourg.

Fountain St. Michel, Boulevard St. Michel.

Fountain Molière, corner of Rue Molière.

Fountain St. Sulpice, Place St. Sulpice.

PUBLIC BUILDINGS.

These are legion, and can only be briefly referred to here, special care having been taken to mention those most suitable for photographic purposes.

Arc de Triomphe de l'Etoile.

Arc de Triomphe du Carrousel.

Manufactures des Tabacs, Quai d'Orsay. Admission, Thursdays only, from 10 to 12, and 2 to 4, by written application to the Regisseur.

The *Gobelins Manufactory* of Tapestry, Avenue des Gobelins. Open on Wednesday and Saturday, from 1 to 3 p.m., by permission.

The *Hotel de Ville*, on weekdays, from 1 to 3. Terms on application to the concierge (hall keeper), at the Rue de Rivoli entrance.

Hotel des Invalides, Place des Invalides, daily, from 12 to 4, and on Sundays. The Museum, Emperor Napoleon's Tomb, etc., are open on special days. No fees.

The *Morgue* (mortuary), situated at south-east end of the Ile de la Cité, behind the Cathedral of Notre Dame, is open daily.

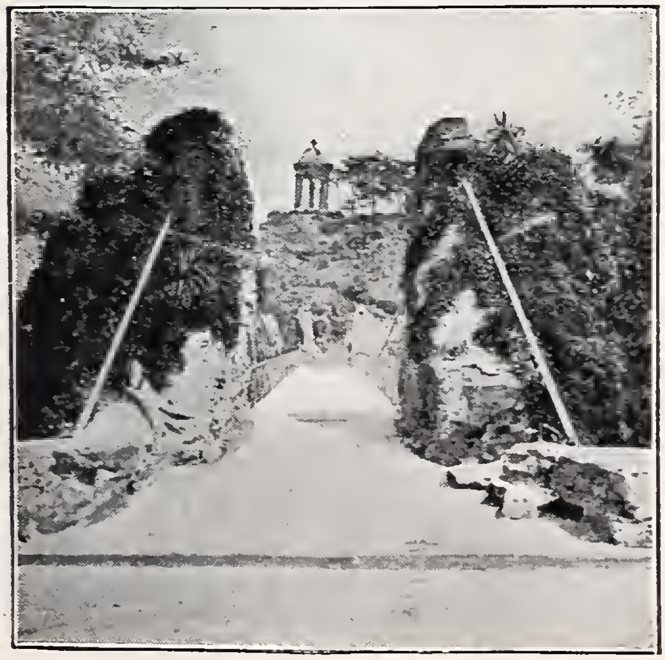
The *Bourse*, interesting to but a few, makes a capital photograph. The public is admitted to the gallery from 1 to 5 p.m.

Palais du Luxembourg, open to the public daily, with the exception of Mondays, from 9 to 5. On Sundays, from 10 to 4 only.

Hotel des Ventes Mobilières (auction rooms), Rue Druot. These are the most celebrated sale

TOWER OF ST. JACQUES.

ST. VINCENT AND ST. PAUL.



THE BUTTES-CHAUMONT.

rooms in Europe, and should certainly not be forgotten. Admission free.

Of notable historic houses many may be found in various parts of the city. The most interesting are the *Hôtel de Cluny* in the *Rue du Sommerard.* This should be seen and photographed.

The *Sorbonne* (University) open daily, except Sundays and holidays.

Palais de l'Elysée, the official residence of the President of the French Republic.

The public squares and Boulevards which will attract the photographic visitor, as well as the monuments and other places of interest, such as the Père la Chaise, probably the best-known cemetery of the world, cannot escape notice during walks and drives through the city. They are too numerous even for a small selection, and everyone can make his choice after personal inspection, and after consulting the map references to be found on page

FETES AND FAIRS.

Fêtes and Fairs generally provide much work for the photographer, especially in France.

Gingerbread Fair is held on the Place de la Nation for three weeks after Easter.

The *Grand Prix de Paris* is run at Longchamps, on the first Sunday in June. This is the grandest fête held in Paris throughout the year.

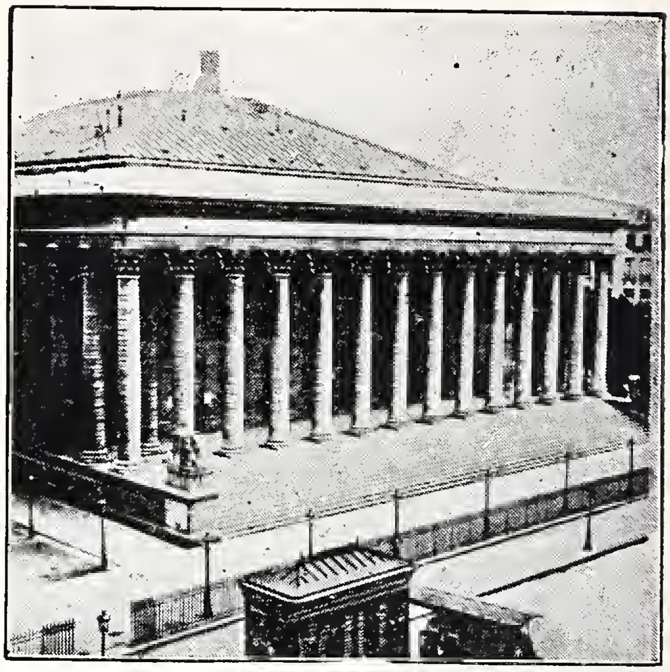
The *French Derby* is run at Chantilly just before the Grand Prix.

The Neuilly Fête is held at Whitsuntide.

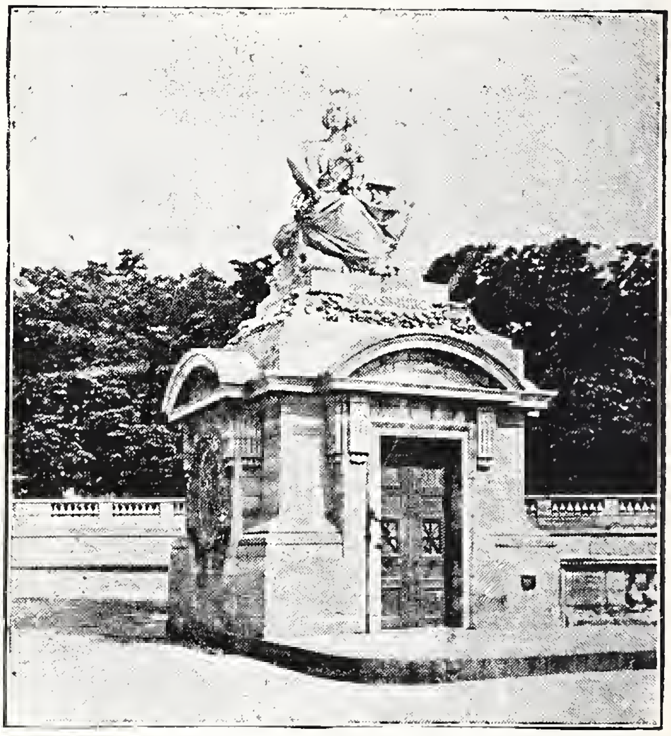
During the months of May and June the *Paris Salon* begins.

The *Fêtes des Loges* is held on the first Sunday in September, in the Forest of St. Germain, lasting three days; the sights seen during this festival are surprising.

But the finest of all fêtes is that of *St. Cloud*, beginning on the Sunday following the 7th of September, and lasting until the end of the month.



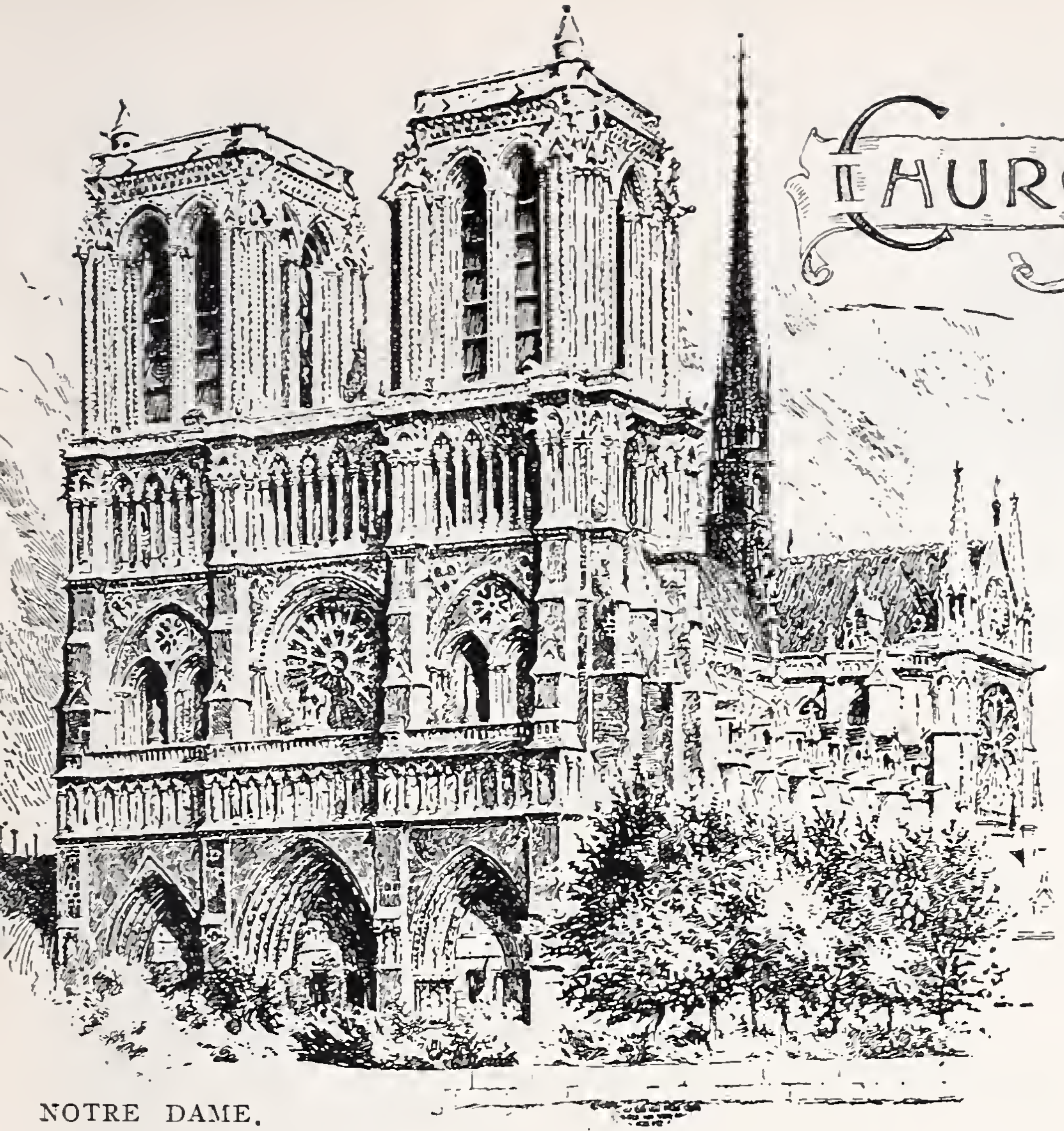
THE BOURSE.



WASBOURG MONUMENT.

SALLE DINON, LOUVRE.

CHURCHES



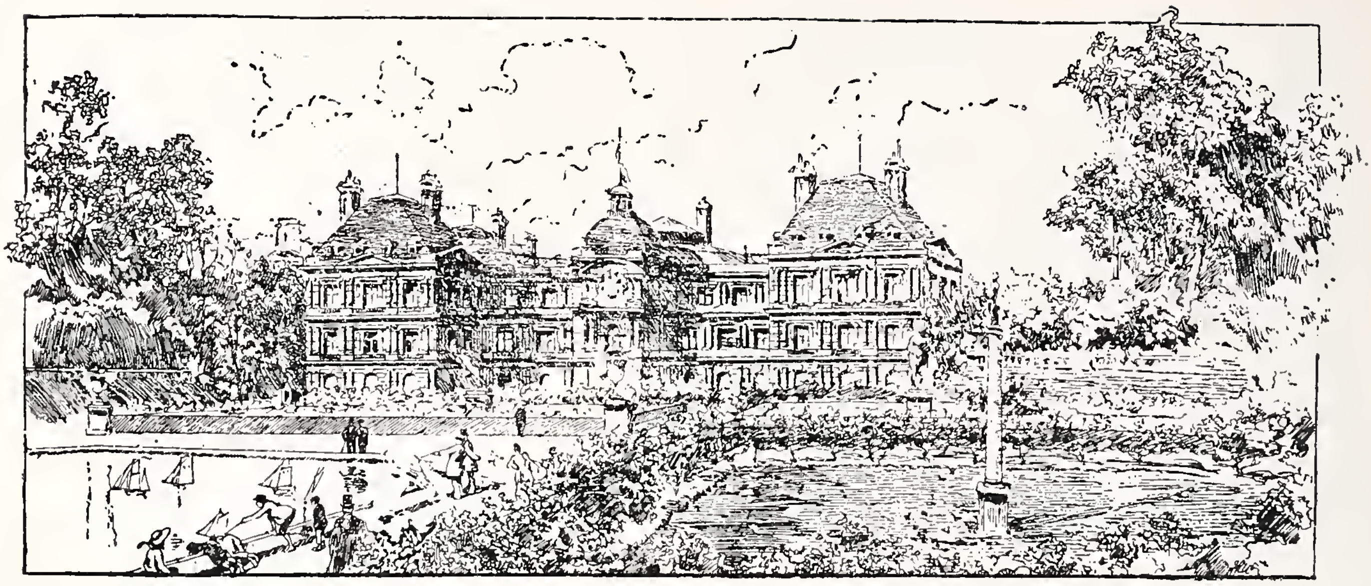
NOTRE DAME.

CHURCHES in Paris are very numerous and as a usual thing extremely beautiful. Of course the great cathedral Notre Dame is queen of them all. Founded in 1163, its building took many years, and more than fifty years ago a vast sum of money and much skill and pains were expended on its thorough restoration, so that to-day it stands a magnificent edifice. The grand old cathedral has passed through many vicissitudes, having been badly blemished and damaged during the time of the Revolution. In fact, during that anxious period the great cathedral was condemned to total destruction, but better counsel prevailed, and only the statuary was mutilated.

Another distinctive edifice which always appeals to the Anglo-Saxon visitor is the Madeleine. It is a late Roman adaptation of a Greek temple, and altogether a most striking building, with its glorious rows of Corinthian columns surrounding it. It is 354 feet long, and 141 feet in breadth, and stands about 100 feet in height, and it has no windows. It, too, has had its changes, although its beginning only dates back to 1764. Napoleon, it is told, wished to convert it into a " Temple of Glory," but held his hand.

It would be impossible with our limited space to give a worthy conception of the architectural beauties and historic interest of the ecclesiastical edifices to be found in every quarter of the gay city, and a simple enumeration of them would not be of much service to the stranger within her gates. A short reference is made to some of them under the heading of " The Attractions of Paris from a Photographic Point of View." We subjoin a carefully compiled list of English and American Churches, with their respective addresses and hours of service.

English Church, 5, Rue d'Aguesseau, 8.30, 10.30, 3.30, 8.0.
Christ Church, 49, Bd. Bineau, 10.30, 4.0.
Victoria Jubilee Church, 7, Rue Auguste Vachery, 8.30, 10.30, 3.0, 8.0.
Holy Trinity Church, Avenue de l'Alma, 8.30, 11.0, 4.0.
St. Luke's Chapel, Rue de la Grande Chaumiere, 8 30, 10.30, 8.0.
St. Joseph (Roman Catholic), 50. Avenue Hoche, 6, 7, 8, 9, 10, and at 11.30.
American Chapel, 21, Rue de Berrie, 11.0.
Scotch Church, 17, Rue Bayard, 11 and 8.
The Congregational Church, 23, Rue Ryale, 11.15, 7.30.
Wesleyan Church, 4, Rue Rocquepine, 11 and 8.
Baptist Church, 48, Rue de Lille, 4 p.m.



MUSEUMS AND GALLERIES.

It would be impossible to exaggerate the varied interest attaching to the Museums in the French capital. They comprise objects almost as multitudinous as the International Exhibition itself. They illustrate the history of centuries, and they are an epitome of the nations' life from the commencement of the Middle Ages to 1900. Undoubtedly the first place amongst them is held by the Musée du Louvre, over whose treasures it might almost be said a special Providence watched. For it has survived all the great crises that have befallen the country—the Revolution, the occupation by the Allies, the Commune, and the fall of Dynasties. At one time churches and cathedrals throughout France were ransacked of their treasures to fill the stately rooms and corridors of the Louvre. By and bye, when the sword of the First Consul carried the French flag in triumph through the capitals of the continent, it was enriched by *spolia opima* from the conquered territories; and although in 1815 restitution was enforced, the collection of *objets d'art* was by no means impoverished. It might almost be said even to-day that in the wide world there is *nihil simile aut secundum.*

Musées du Louvre. Admission Free, every day (Mondays excepted). Open from 10 to 4 in Winter and from 9 to 5 in Summer; on Sundays from 10 to 4 in all seasons. Closed on Bank Holidays when not on a Sunday. World renown Picture Gallery; Museum of Antique Sculpture and Works of of Art. One of the finest and most valuable collections in Europe. There is also a Naval Museum attached to it.

Musée du Luxembourg. Admission Free. Same days and hours of admission as the Louvre. Pictures, Sculptures, Etchings, Cartoons and Works of Art, more specially by modern artists.

Musée de Cluny. Rue du Sommerard (near the Bould. St. Michel) Admission Free, every day (Mondays excepted); open from 11 to 4 in Winter and from 11 to 5 in Summer. On Sundays from 11 to 4 in all Seasons. Closed on Bank Holidays when not on a Sunday. Tapestries, China, Sculptures, Furniture, Arms, and Works of Art of every description pertaining mainly to the middle age period.

Ruins of ancient Roman Baths known as "Thermes de Julien."

Musée des Gobelins. 42, Avenue des Gobelins. Admission Free on Wednesdays and Saturdays from 1 to 3.

This Museum is attached to the National Manufacture of Tapestries bearing the same name and known the world over. It is considered to be the finest and most valuable collection in existence.

Musée Carnavalet. 23, Rue de Sévigné. Admission Free, Tuesdays, Thurdays and Sundays from 10 to 4 in Summer and from 11 to 5 in Winter.

Historical Museum of the City of Paris.

For those visitors who have the desire and the time to travel further afield we append the subjoined list:—

Musée d'Anatomie, Boulevard, St. Germain.
,, *des Antiquités Nationales,* St. Germain.
,, *des Archives,* Hotel de Soubise.
,, *d'Armée,* Hotel des Invalides.
,, *d'Artillerie,* Hotel des Invalides.
,, *Astronomique,* Avenue de l'Observatoire.
,, *Céramique,* Sèvres.
,, *Cernuschi,* 7, Avénue Velasquez.
,, *de Chalcographie,* The Louvre, Rue de Rivoli.
,, *de Chasse et de Pêche,* Jardin d'Acclimatation, Bois de Boulogne.
,, *des Copies,* Ecole des Beaux Arts, Rue Bonaparte.
,, *Dupuytren,* Boulevard St. Germain.
,, *Ethnographique,* Palais du Trocadéro, Place du Trocadéro.
,, *Forestier,* Bois de Vincennes.
,, *de Galliéra,* Avenue du Trocadéro.
,, *du Garde Nenble,* 103, Quai D'Orsay.
,, *Grévin,* 10, Boulevard Montmartre.
,, *Guimet,* Place d'Iéna.
,, *Haüy,* 14, Rue Bertrand.
,, *d'Histoire Maturelle,* Jardin des Plantes.
,, *Historique,* Palace of Versailles.
,, *de la Ville,* Rue Sévigné.
,, *Industriel,* Square des Arts et Métiers.
,, *de Madame de Caën,* The Institut, Pont des Arts. (Not open to the public. Admission by request at No. 1, Rue de Seine.)
,, *des Médailles,* Rue Richelieu.
,, *de Minéralogie,* Ecole Supériaire des Mines, Boulevard St. Michel.
,, *Monétaire,* Hôtel des Mounaics, Pont Neuf. (Tuesdays and Fridays, 12—3 o'clock.)
,, *des Moulages,* Palais du Trocadéro, Place du Trocadéro.
,, *de Musique,* Conservatoire de Musique, Rui du Faubourg, Poissonière.
,, *de l'Opéra,* L'Opéra, Place de l'Opéra.
,, *Orfila,* Ecole de Medicine, Boulevard St. Germain.
,, *Paleographique,* Archivès Nationales, Hôtel de Soubise.
,, *Pedagogique,* 41, Rue Gay Lussac. (Thursdays, 10 a.m. to 4 p.m.)
,, *de la Révolution,* Salle du Yen, The Trianons, Versailles.
,, *de Sculpture Comparée,* Palais du Trocadéro, Place du Trocadéro.
,, *Social,* 5, Rue Las-Cases.
,, *des Thermes,* Hotel de Cluny, Rue du Sommerard.
,, *des Voitures,* The Trianons, Versailles.

PARIS BY LIMELIGHT.

IT is when the huge searchlight on the summit of the Eiffel Tower swings round, touching at one moment the fortress of Mt. Valerien, at another whitening the Basilique of the Church of the Sacré Cœur far up on the heights of the hill of Montmartre, losing itself over the dismal quarter of St. Denis and St. Ouen, only to find itself again in gay company when it strikes the Latin Quarter, that the night in Paris begins. The world has dined, and is cancelling the gentle torpor of a good digestion by a café and a cigar in the open air on the terraces of the Boulevard cafés. It is the lazy *dolce far niente* moment of the day.

Two hours before the same crowd coming down from the Bourse, from the big centres of commerce, from the race course, and from *le monde ou l'on ne s'ennuie pas* had forgotten their troubles in the opal absinthe, the blackened amers, the rosy grenadine and the green menthe. Dinner has come to the rescue of worried minds, and over his coffee the Parisian passes the happiest moment of his life—in watching the world go by, soothed at the same time by the soft hum of the music of the tziganes that filters in from the café behind. The whole world supplies the procession which you observe if well placed on the terrace of the Café de la Paix. The South American, with his cigar driven tightly into the corner of his mouth, looks fiercely when some negro brushes against him, and he knows that he has no right to shoot him down. The tired-eyed Turk, slowly dragging himself along, has a little pig-tailed Chinaman trotting nimbly behind him, and in turn go by members of every race that have ever had enough money to buy a ticket for the *ville lumière.* So long as the coffee remains hot, and the cigar only half burnt through, this sight is perfect from the calmer frame of mind; but the gradual lighting up of the façade of the Opera suggests that the night is young, and as the cigar ash is crumbled into the saucer, the question is mentally discussed as to where to go.

Paris is unbeaten in variety, although it is restricted in the number of its theatres and places of amusement. Another thing should be remembered, and that is, that it is a lost evening to attempt, during the season, or at Exhibition time, to go to a theatre and count on the chances of being able to secure a seat by payment at the doors. There is a regular and remunerative occupation carried on by a syndicate, who employ well-dressed men to go to the best known theatres and buy up all the orchestra stall and dress circle tickets that they can. These are then put up at a premium. Last January an attempt was made by the police to suppress this traffic, and several of the touts who hung round the theatres, with tickets in their pockets, were arrested, but the law was easily evaded by the chief taking up his office in some handy wine-shop; or as in the case of Sarah Bernhardt's theatre, in the very building itself, where he pretends to run a glove shop.

It would be impossible to too strongly impress upon the theatre-goer during the Exhibition the absolute desirability of framing out a list of the theatres that he intends to visit, and, without delay, securing the tickets he requires, as otherwise he will find himself in the hands of these sharks, who will charge him three and even four times the value of the seats he occupies. As briefly as possible let us help the visitor to fix upon the house where the theatrical fare that he desires will be found.

The Opera needs no explanation, but the Théâtre Français does. There are nights when Mounet Sully, Wanda de Bronca, Marsy, and Coquelin cadet may be seen in one single play; and there are other nights when the stage is occupied by a crowd of young artists fresh from the Conservatoire. The same applies to the Opera Comique.

In each case it is well to seek the kindly services of one of the box office keepers in the neighbourhood of the Opera, who will willingly allow visitors to see the programmes selected for the week. Rèjane, at the Vaudeville, is always superb in her semi-comedio-tragic pieces, and it may be of interest to the ladies to know that at the Vaudeville the most magnificent dresses worn on any stage in the world are to be seen. The Nouveautès, together with its neighbour, the Variétés, and the Palais Royal, may be grouped together. There the plays produced are from the pens of the most brilliant young authors; and although invariably they are secured by English and American agents for adaptation, and toned down, they are in their national dress very, very ultra-Parisian.

Still going down the boulevards from the Madeleine to the Bastille, one comes to the Gymnase, which the destruction by fire of the Comedie Française has converted into the home of Odéon, the second theatre in France, the Comèdie Française having installed itself in its old home near the Luxembourg. Here in general only those with an acquaintance with Molière, and the French classical writers, would find much to interest them. Sarah Bernhardt's old theatre, the "Renaissance," devotes itself to popular operas, and as they are well mounted, with an excellent orchestra and a well-seected company, a very delightful evening may be spent there. The Porte St. Martin is the very home of historical drama, and with Coquelin always in the leading rôles, the finest studies in the hands of this splendid actor are a revelation.

In the same block of buildings is the Ambigu, which may be candidly described as the home of modern melodrama, for it is the invariable rule at this house never to produce a play that does not contain some incident more sensational than that which has occurred in any preceding plays. The Chatelet, the largest theatre in Paris, mounts its plays and ballets with a reckless regard to expense, and the spectacle is one of the most magnificent eye feasts in Paris.

Sarah Bernhardt's theatre across the road will naturally be the most sought after; but as she is under a contract with her landlords, the Municipal Council, not to increase the price in certain parts, a seat should be easily secured at a reasonable price. We have previously alluded to the schemes of the theatre touts, particularly in regard to this theatre.

The boulevard music halls in Paris are run entirely on English lines, and the bulk of the artistes are English. Still, there is always some typically Parisian turn, both at Olympia and at the Folies Bergère, and in either Paris life in its brightest and most multi-coloured form is to be met with. The Ambassadeurs, the Alcazar d'étê, the open air Cafés Chantants in the Champs Elysees are, however, perhaps the most delicious features of a summer night's amusement. The coolness of the trees with their gentle rustle, the soft glow of the half hidden lamps, and the fresh sweet odour of the flowers, will be soothing as a pleasant dream to the tired men whose dust covered boots tell the tale of a long and weary tramp through Exhibition land. On the stage in turn passes the sad, the sentimental, the patriotic, the gay, the sarcastic in song and act, and with the star-lit sky as a roof he would be a difficult visitor to please who did not recall this experience hereafter as one of the pleasantest moments of his stay in Lutetia.

A reasonable pleasure is always taken by the English visitor to see the Parisian dancing; but this year there is less scope than there was in 1889, and practically nothing as compared with 1878. Originally there were close on thirty dancing halls, but the fashion in pleasure has gradually changed, and one by one they have disappeared. The Moulin Rouge is the best known, but the dancing is a mere detail, and the attraction is supplied by an ordinary music hall entertainment. The new

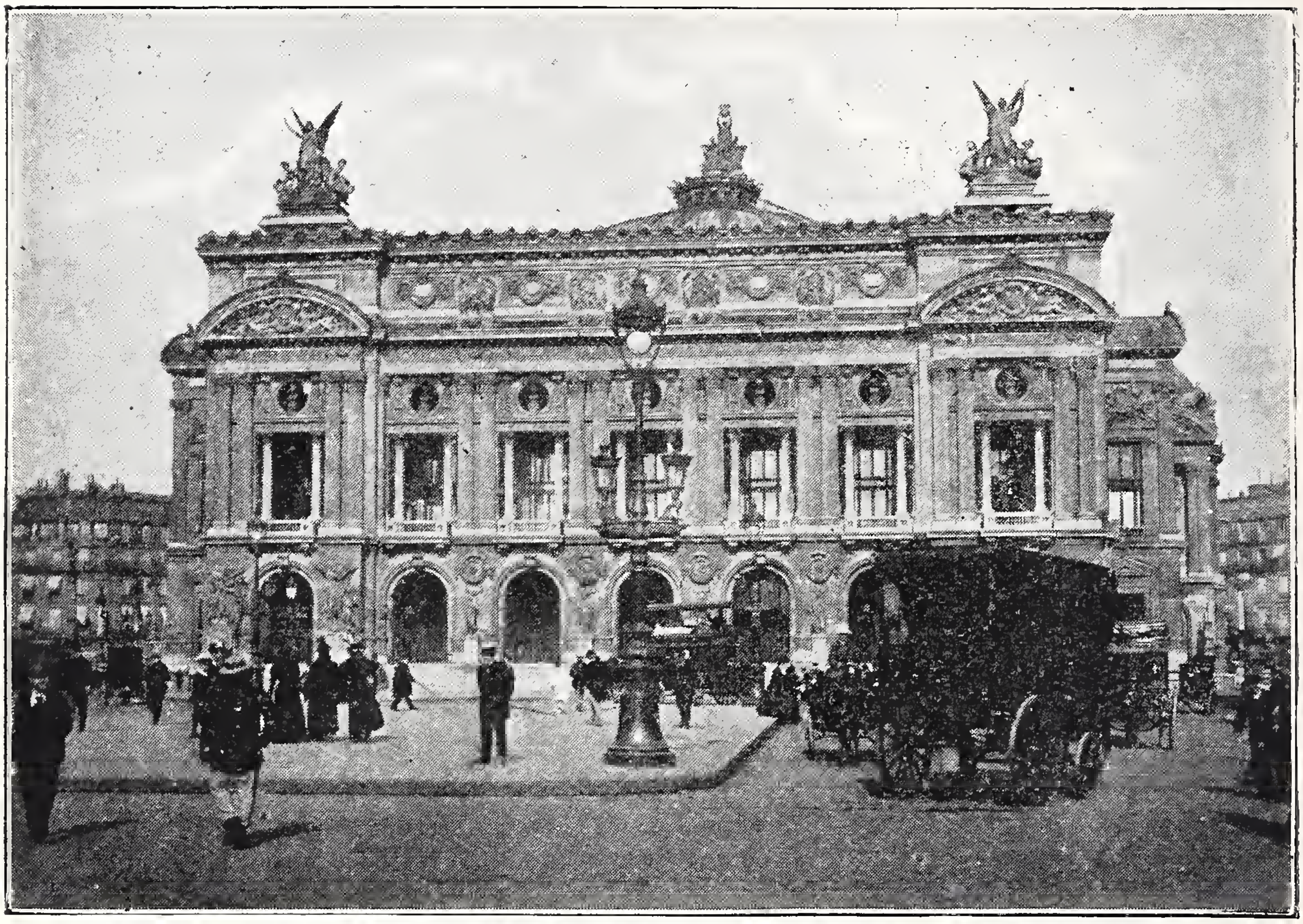
AN EVENING
AT A CAFE
CHANTANT.

Jardin de Paris in the Champs Elysees—the old one was swept away to make room for the present Exhibition—belongs to the same proprietors, and all the famous dancers such as La Sauterelle, le Môme Fromage, Grille d'Egout, le Syphon, and sundry others bearing eccentric names, are withdrawn from the establishment in Montmartre, and dance in a reserved space round the bandstand in the Jardin de Paris. Bullier, the once famous hall in the Quartier Latin so dear to the students, has lost all its old characteristics, and it is only on Thursday nights that there is decided gaiety.

The most remarkable feature that is to be noted in the life of Paris to-day and Paris at the last Exhibition is the search after the grotesque, and a visit to Montmartre should not be cut down to an hour or so, but a long evening should be set aside; the bill of fare is hardly suitable for ladies. To begin with those who do not object to the gruesome should visit the Cabaret de Nèant. One enters through a doorway arranged to represent a *maison mortuaire*, which is rendered the more ghastly by the glow of a green lamp. The tables consist of coffins, and as the drink is served, the waiter, who is dressed as a mute, hisses in your ear that it is poisoned with cholera microbes. Skulls hang on the walls, and the buffoonery is carried to the extent of an imitation priest walking among the audience and praying that they may die before they leave. Directly the front hall is filled the audience are led into a vault, and before its eyes anyone who chooses may go on the stage and enter a coffin, where he is reduced to a skeleton by some trick of lights.

Almost exactly opposite are the cabarets of "L'Enfer," "Le Ciel," "Le Fin du Monde." In the former the waiters are dressed as demons and the whole place got up to represent the nether regions, and an entertainment is given; the "Fin du Monde" is also harmlessly if stupidly grotesque; but the "Ciel" should be avoided as it is crudely blasphemous. This brings the night up to about ten o'clock, and half an hour full of laughter and life may with advantage be put in at the Cigale Music Hall, the only thoroughly Parisian music hall in the City. The Cabaret of Aristide Bruant is of a certain interest; but anyone who goes there must clearly understand that it is a condition of the house that directly any one enters, even if he be with a lady, every one hurls all imaginable insults at him. This has led to many misunderstandings; and although those in search of the curious may care to spend five or six francs in order to hear the strangely garbed Bruant sing as he wanders about the cabaret and insults every one promiscuously, it is hardly worth while. As to the artistic cabarets such as the Treteau de Tabarin, or the Boite à Fursy, where the entrance fee is very high, the entertainment is absolutely pointless to any one who does not closely follow French politics and events. The original idea of the late Rudolph Salis when he founded the Chat Noir, which was the precusor of these quaint little halls, was to allow young authors and musicians the opportunity of submitting their works directly to the public instead of posting them to editors or theatrical managers for consideration; but this has long been outlived.

And at this advanced hour of the night the reader may be left. If he requires a simple snack he has Mollard's by the Gare St. Lazare. Tourtelle's on the Boulevard de Capucines, the Taverne Royale in the Rue Royale. If his tastes run higher there is Maxim's in the Rue Royale, Paillard's, or the Café Americain. The Olympia Café, underneath the Music Hall, is open all night, and there is music and singing till early in the morning.



THEATRES.

PARIS is a city of theatres. She possesses about twenty that may be called of first-class importance, and those of a minor value, together with what we may term music halls, can be counted by the score. And Paris pays attention to her theatres—that is, to the principal ones. She is not contented to trust entirely to private enterprise for the quality and quantity of her entertainment, she has Government control and subsidies. In the very centre of the fair city stands the Opera House, a building the like of which is seldom met with on the face of the earth; in fact, it is superlatively grand in architecture, embellishments and fittings, and which should be visited at least once by every visitor to Paris. Everyone at all interested in matters theatrical will remember the dramatic burning of the Theâtre Francais, and the whole world applauded the energy and determination with which Paris set about restoring the historic and valuable home of the drama. Paris resolved that in the least possible time the place would be restored in all its glory to the public, so that visitors to the Expositon would have an opportunity of enjoying the performances of the world-renowned company that is associated with the house. The Opera Comique, another of Paris's most famous play-houses suffered severely by fire, but that was as long ago as 1887. But to name each Opera House and Theatre, and to give a concise description of them all by turn would take up more space than any reasonable sized guide could devote. However, following this will be found a list of them that will serve as a thoroughly practical guide.

Théâtre Français or Comédie Française. Place du Théâtre Français, near the Palais Royale.

The Opera House. The largest theatre in the World. Place de l'Opéra.

Opéra Comique. Place Boieldieu. Burnt down in 1887, but now nearly restored.

The Odéon. Place de l'Odéon, near the Palais du Luxembourg. Classical drama.
The Gymnase. Boulevard Bonne Nouvelle. Comedy.
The Vaudeville. At the corner of the Rue de la Chaussée d'Autin and the Boulevard des Capucines. Drama and Comedy.
The Variétés. Boulevard Montmartre. Vaudevilles Farces, Operettas.
Théâtre du Palais Royal. Corner of the Palais Royal. Vaudevilles and Broad Farces.
Théâtre de la Porte St. Martin. Boulevard St. Martin. Spectacular Drama.
Théâtre de la Renaissance. Adjoining the preceding. Comedies.
Théâtre de la Gaité. Square des Arts et Metiers. Plays of all kinds.
Théâtre du Châtelet. Place du Châtelet. Ballet and Fairy Scenes. Sliding roof which is removable in Summer for Ventilation.
Théâtre des Nouveautés. Boulevard des Italiens. Comedy and Screaming Farce.
Bouffes Parisiens. Rue Montigny and Passage Choisiul. Comic Operetta. Offenbach's operas were nearly all brought out here.
Ambigu-Comique. Boulevard St. Martin. Dramas, Mélodramas, and "patriotic" pieces.
Folies Dramatiques. Boulevard St. Martin, or Rue de Boudy, 40, near the Place de la République. Operettas, etc.

In addition to these we may mention the *Théâtre de Cluny*, near the Musée de Cluny; the *Théâtre Dejazet*, Boulevard du Temple; the *Théâtre de la Republique*, Place de la République; the *Théâtre des Ternes*, Avénue des Ternes, near the Arc de Triomphe; the *Théâtre Robert Houdin*, devoted to conjuring of all kinds, Boulevard des Italiens.

MUSIC HALLS AND CAFÉS CONCERTS.

Folies-Bergère. Rue Richer. Half theatre, half Café Concert. Promenade and smoking.
Olympias. Boulevard des Capucines.
Casino de Paris. Rue Blanche.
Nouveau Théâtre. Rue de Clichy.
Moulin Rouge. Place Blanche. Balls frequently held here.
Concert des Ambassadeurs. Champs Elysées.
Alcazar d'Eté. Champs Elysées.
Concert de l'Horloge. Champs Elysées.
The Scala. Boulevard Sebastopol. Unroofed in summer.
Bataclan. Boulevard Voltaire.
Petit Casino. Boulevard Montmartre.
La Cigale. Boulevard Rochechouart.

Besides the Cafés Concerts, the Cabarets Artistiques, which are modern, are popular and attractive, but rather more of the Café Brasserie than the Music Hall. The visitor to thoroughly appreciate some of them should possess plenty of nerve and a fair knowledge of the *Argot* of Paris. The *Cabaret de l'Enfer*, and the *Cabaret du Ciel*, and *Du Néant* give mystic shadow plays which would not suit Paterfamilias if accompanied by his daughters.

USEFUL ADDRESSES IN LONDON.

Recommended Hotels.

Devonshire House Hotel, Bishopsgate Street, E.C. Telephone No. 2495. First-class Temperance. Opposite Liverpool Street Station. Telegraphic Address, "Exterior, London."
Fisher's Hotel, Clifford Street and Bond Street, W. Telephone 5019 Gerrard.
Hotel Cecil, Strand, W.C. Telegraphic Address, "Cecelia, London." Telephone 3617 Gerrard. For full particulars, see page 2.
Manchester Hotel, Aldersgate Street, E.C. Telephone No. 534, Holborn.
Wild's Temperance Hotel, 70 & 71, Euston Square. Telephone No. 647.
Wild's Temperance Hotel, 34 to 40, Ludgate Hill. Telephone No. 874.

Grand Hotel, Trafalgar Square. Hotel Metropole, Northumberland Avenue. Hotel Victoria ,, ,, First Avenue Hotel, High Holborn. Hotel Metropole, Brighton. Hotel Metropole, Folkestone. Lord Warden Hotel, Dover. Burlington Hotel, Eastbourne. Cliftonville Hotel, Margate. Grand Hotel, Broadstairs. Royal Pier Hotel, Ryde, I.O.W.	The Gordon Hotels.

Underclothing.

Dr. Lahmann's Cotton Wool Underclothing, 15, Fore Street, E.C.

Ladies' Tailors.

Philip & Sons, Quadrant House, Registered, 58, Regent Street, W.

Tailors.

Shelton & Ball (from Smalpage & Son), 180, New Bond Street, London, W. New York Agent:—Mr. J. L. McEwen, 19, West 31st Street, New York.

Hat Manufacturers.

Lincoln Bennett & Co., Ltd., 1, 2 & 3, Sackville St., and 40, Piccadilly, W.
Preedy & Co.'s West End Store, 12a, Regent Street, close to Pall Mall, London.—The Sole Agents for Knox's New York Hats.

Tea Merchants.

Ridgways, Ltd., King William Street, City.
Ditto 182, Oxford Street, W.
Ditto 87, 88, & 89, Aldgate, E.

Royal Warrant Holders.

Compagnie Francaise. Chocolate, "Excel" Cocoa and Confectionery.
J. C. & J. Field, Ltd., Upper Marsh, Lambeth, S.E.—Soaps and Candles.
Forder & Co., Ltd., 7, 8 and 9, Upper St. Martins Lane, W.C.—Carriage Builders.
J. S. Fry & Sons, Ltd., Bristol.—Cocoa and Chocolate.
T. Harris & Co., Ltd., Calne, Wilts.—Wiltshire Bacon.
Keen, Robinson & Co., Garlick Hill, London.—Keen's Mustard, Robinson's Patent Barley, Robinson's Patent Groats, &c.
The Patent Borax Co., Ltd., Ladywood, Birmingham, and 129, High Holborn, W.C.—Soap.
Peter Robinson, Oxford Street and Regent Street.—Gowns and Costumes, &c.
Spicer Bros., Ltd., 19, New Bridge Street, E.C.—Wholesale & Manufacturing Stationers.
Westley Richards & Co., Bournbrook, Birmingham.—Sporting Guns.

USEFUL ADDRESSES IN PARIS.

Hotels.

HOTEL D'IÉNA, 26, 28, 30, Avenue d'Iéna. Telegraphic Address, "Scho, Paris." Telephone 695-65. Proprietor, F. Schofield.

Typewriting.

YOST TYPEWRITER CO., LTD., 36, Boulevard des Italiens.
REMINGTON TYPEWRITER CO., 8, Boulevard des Capucines.

Watch and Chronometer Makers.

L. LEROY & CIE., Chronometer Makers to the Navy, 7, Boulevard de la Madeleine (formerly Palais Royal 13). The best and most reliable firm for superior Watches. Own manufacture of Watches and Clocks of all kinds. Splendid show class 96, "New thin Watches, Gold face." The Marvellous "20,000 Francs" Watch is to be seen.

Furniture and Works of Art.

LOWENGARD, E., Boulevard de Capucines 1. The very finest Collection of Old Gobelins and Beauvais, Tapestries, Old Furniture and Works of Art of every description and of All Periods. T.N. 112-42. T.A., Lowengard, Paris.

Corsets.

LEOTY, 8, Place de la Madeleine.

Patent Foods.

DELAGRENIER, 19, Rue des Saint-Pères.

Dresses and Mantles.

LAFERRIÈRE, 28, Rue Taitbout.
RAUDNITZ, ERNEST, 28, Rue Louis le Grand.
ARMAND, 6, Chaussée D'Autin (near the Opera House).

Perfumers.

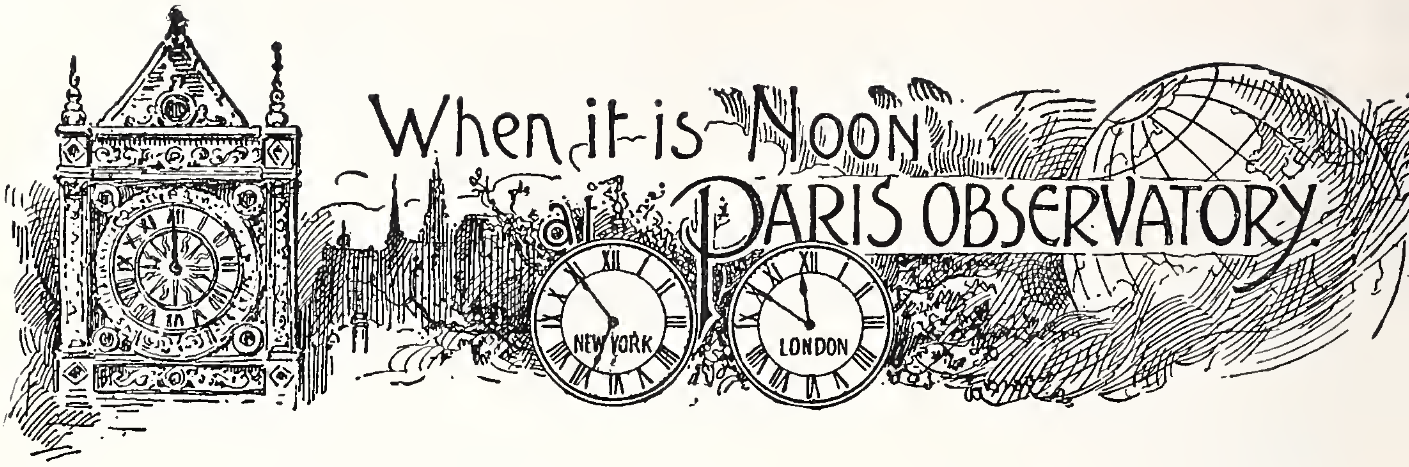
ORIZA PERFUMERY, L. LEGRAND, 11, Place de la Madeleine.

Hygienic Beverages.

DE RICQUÉL'S– Well known for Spirit of Peppermint.

Groceries.

FÉLIX POTIM, 45, 47, Boulevard Malesherbes, and 1, Rue la Boetie. The English and American Grocer.


When it is Noon at Paris Observatory
NEW YORK
LONDON

The RELATIVE TIME in the following places **is:**

	A.M.		P.M.		P.M.
LONDON ...	11.51	Cairo ...	1.56	Pekin	7.37
Dublin	11.26	Sierra-Leone	12.44	Tokio	9.9
NEW YORK ...	6.55	Capetown ...	1.3	Honolulu ...	10.22
Chicago ...	6.1	Suez... ...	2.2	Manila	7.54
San Francisco ...	3.43	Aden ...	2.51	Melbourne ...	9.31
Vancouver (B.C.)	3.37	Bombay ...	4.42	Sydney	9.56
Havana... ...	6.22	Calcutta ...	5.44	Wellington, N.Z.	11.29
Buenos-Ayres ...	7.58	Singapore ...	6.46		A.M.
Callao (Chili) ...	6.43	Hong Kong ..	7.27	Panama... ...	6.33

Lisbon	Madrid	St. Petersburg	Rome
11.15 a.m.	11.36 a.m.	1.52 p.m.	12.40 p.m.

Eastern European Time: 1.51 p.m. when it is "NOON" in Paris.
Central European Time: 12.51 p.m. " " "
Western European Time: 11.51 a.m. " " "
Western European Time is GREENWICH Time.

The following countries use CENTRAL EUROPEAN TIME:

Austria-Hungary, Germany, Switzerland, Italy (for railways), Sweden. The Italian Railways count the day from **1** p.m till **24** o'clock, for example **2.30** p.m. is written and spoken of as **14.30** o'clock.

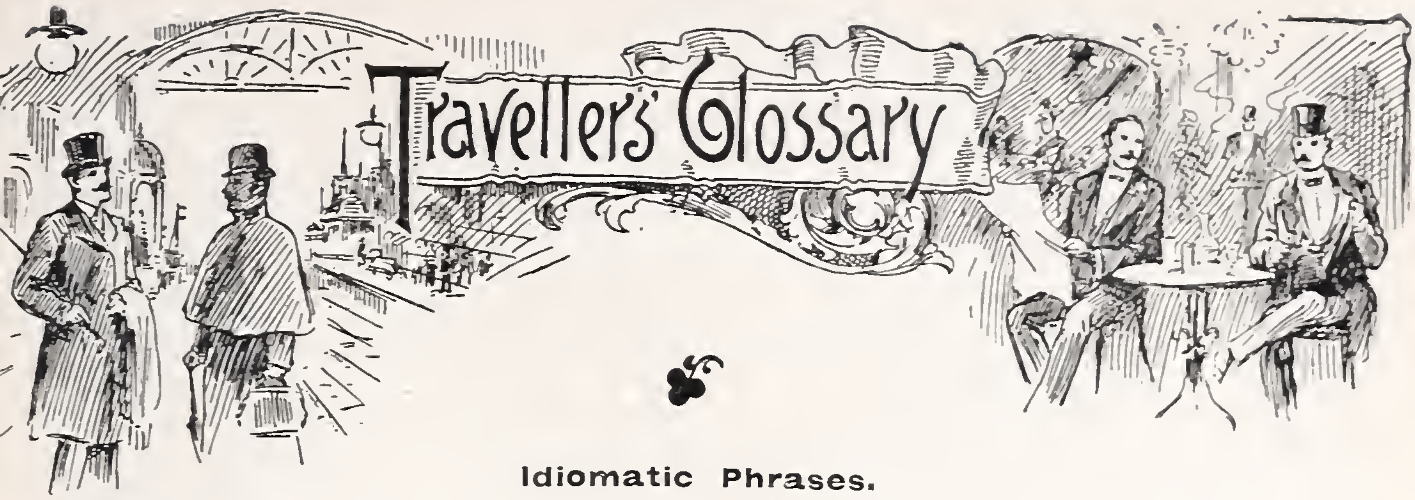
The following countries use EASTERN EUROPEAN TIME:

Bulgaria, Roumania, Turkey (East).

The following countries use WESTERN EUROPEAN TIME:

Belgium, Great Britain (Ireland uses Dublin time), Holland.

A striking illustration of the above differences of time can be noticed at the frontier Railway Stations between Belgium (W. E. T.) and Germany (C. E. T.) We will take for instance HERBESTAHL, on the route followed by the Ostend-Frankfort and Berlin express, there is a clock in the Custom House room which possesses two dials; the one facing the Belgium side of the room shows 5 a.m., the one facing the German side shows 6 a.m.; the very same clock at the very same moment.



Traveller's Glossary

Idiomatic Phrases.

If you please.	S'il vous plaît.
With your permission.	Avec votre permission.
I beg your pardon.	Je vous demande pardon.
You will oblige me.	Vous m'obligerez.
I thank you.	Je vous remercie (merci).
I shall be much obliged to you.	Je vous serai bien obligé.
Do you understand?	Comprenez-vous?
I do not understand it.	Je ne le comprends pas.
That is a matter of course.	Cela va sans dire.
With pleasure.	Avec plaisir.
With many thanks.	Avec mille remerciments.
I am at your service.	Je suis à vos ordres.
Yes, indeed.	Si fait.
On the contrary.	Au contraire.
It is no matter.	Ce n'est rien.
I am sorry for it.	J'en suis fâché.
Excuse me !	Excusez-moi.
Pardon me !	Pardonnez-moi.
You are welcome.	Soyez le bien venu.
It is quite impossible.	Cela est impossible.
It is not my fault.	Ce n'est pas ma faute.
It is not my business.	Ce n'est pas mon affaire.
I assure you.	Je vous assure.
Truly.	Vraiment.
Indeed.	En vérité.
You joke.	Vous plaisantez.
I doubt it.	J'en doute.
You are right.	Vous avez raison.
You are wrong.	Vous avez tort.
You are mistaken.	Vous vous trompez.
What do you say ?	Que dites-vous?
I cannot understand that.	Je ne puis pas comprendre cela.
Wait a moment.	Attendez un instant.
Will you wait for me ?	Voulez-vous m'attendre?
When shall you return?	Quand serez-vous de retour?
I have business to do.	J'ai quelques affaires à finir.
Whither are you going?	Où allez-vous?
Who knocks ?	Qui est là?
Come in.	Entrez.
I am not well.	Je ne me porte pas bien.
Are you unwell ?	Ne vous portez-vous pas bien?
What is the matter with you ?	Qu'avez-vous?
Come this way.	Venez par ici.
Quickly !	Vite, vite!
Make haste !	Depêchez-vous!
I do it reluctantly.	Je le fais malgré moi.
So much the better.	Tant mieux.
I wanted to speak to you urgently.	Je voudrais vous parler instamment.
I am in a hurry.	Je suis bien pressé.
Call on me.	Venez me voir.
Where do you live?	Où demeurez-vous?

Speaking, Reading and Writing, etc.

Walk slower.	Allez plus doucement.
You walk too fast.	Vous marchez trop vite.
Turn to the right.	Tournez à droite.
Turn to the left.	Tournez à gauche.
Let me pass.	Laissez-moi passer.
You speak too low.	Vous parlez trop bas.
Do you speak English?	Parlez-vous anglais?
Do you understand English?	Comprenez-vous l’anglais.
Did you understand me?	M’avez-vous compris?
You did not understand me?	Vous ne m’avez pas compris?
Yes (certainly).	Si (si fait) Monsieur.
What did you say?	Plaît-il? Vous disiez?
I speak it a little.	Je le parle un peu.
You express yourself clearly.	Vous vous exprimez très-clairement.
I understand better than I speak.	Je comprends mieux que je parle.
I am hungry.	J’ai faim.
I am thirsty.	J’ai soif.
I am very hungry.	J’ai bien faim.
I have an appetite	J’ai bon appétit.
I have not yet eaten anything.	Je n’ai encore rien mangé.
We are thirsty.	Nous avons soif.
I am very thirsty.	J’ai bien soif.
I must drink something.	Il faut que je boive.
I should like to drink.	Je voudrais boire.
Give me something to drink.	Donnez-moi à boire.
Give me a glass of water.	Donnez moi un verre d’eau.
Pour me out a glass of beer.	Versez-moi un verre de bière.
I should like a glass of wine.	Je voudrais boire un verre de vin.
I am tired.	Je suis fatigué.
We are very tired.	Nous sommes bien fatigués.
I am sleepy.	J’ai sommeil.
I am very sleepy.	J’ai bien sommeil.
I am going to bed.	Je m’en vais me coucher.
I have slept well.	J’ai bien dormi.
I have slept very badly.	J’ai très-mal dormi.
I could not close my eyes the whole night long.	Je n’ai pas pu fermer l’oeil toute la nuit.
I awoke early.	Je me suis réveillé de bonne heure.
What are you reading?	Que lisez-vous?
I am reading the newspaper.	Je lis le journal.
Where have you read that?	Où avez vous lu cela?
I read it in the newspapers.	Je l’ai lu dans le journal.
I have read it through.	Je l’ai lu jusqu’au bout.
Do you want a pen?	Avez-vous besoin d’une plume?
I wish to write.	Je veux écrire.
Give me the ink.	Donnez-moi l’encre.
What are you writing?	Qu’écrivez vous?
I am writing a letter on business.	J’écris une lettre d’affaires.
I have a letter to answer.	J’ai à répondre à une lettre.

Health and Time.

How do you do?	Comment vous portez-vous?
How are you?	Comment va la santé?
How do you feel?	Comment vous trouvez-vous?
Pretty well.	Assez bien.
Very well I thank you.	Fort bien, je vous remercie.
You appear to be very well.	Vous avez bonne mine.
I am really very well.	Je me porte à merveille.
I do not feel very well.	Je ne me sens pas très-bien.
I am unwell.	Je suis indisposé.
I feel unwell.	Je ne me sens pas bien.

I am very poorly.	Je ne me porte pas bien.
I have had a cold for some days.	Je suis enrhumé depuis quelques jours.
I feel rather better.	Je me porte un peu mieux.
I have a headache.	J'ai mal à la tête.
I have a sore throat.	J'ai mal à la gorge.
I am hoarse.	Je suis enroué.
I have a cold.	Je suis enrhumé.
I have the toothache.	J'ai mal aux dents.
You look very well.	Vous avez bonne mine.
A few days ago.	Il y a quelques jours.
A short time since.	Il y a peu de temps.
One of these days.	Un de ces jours.
Last week.	La semaine passée.
A week ago.	Il y a une semaine.
A fortnight ago.	Il y a quinze jours.
It is at least a month ago.	Il y a au moins un mois de cela.
This day week.	D'aujourd'hui en huit.
That was three or four days ago.	Cela arriva il y a trois ou quatre jours.
It was some time before.	C'était quelque temps auparavant.
About this time.	Vers ce temps.
Last month.	Le mois dernier.
Last year.	L'année passée.
Next year.	L'année prochaine.
In a month's time.	Dans un mois.
The first of the month.	Le premier du mois.
The tenth of next month.	Le dix du mois prochain.
In six weeks.	Dans six semaines.
On the last day of the month.	Le dernier du mois.
At the end of this month.	A la fin de ce mois.
In a fortnight.	Dans quinze jours.
Next week.	La semaine prochaine.
In the course of a week.	Dans le courant d'une semaine.
From time to time.	De temps en temps.
From day to day.	De jour en jour.
At another day.	A un autre jour.
Every day.	Tous les jours.
Daily.	Journellement.
The last day.	Le dernier jour.
What time is it?	Quelle heure est-il?
Is it late?	Est-il tard?
No, it is still early.	Non, il est encore de bonne heure.
It is two o'clock.	Il est deux heures.
It will soon strike six.	Six heures vont sonner.
It is time to rise.	Il est temps de se lever.
It is five minutes after seven.	Il est sept heures cinq minutes.
It is a quarter past one.	Il est une heure et quart.
It is half past six.	Il est six heures et demie.
Already so late?	Déjà si tard?
It is a quarter to eight.	Il est huit heures moins un quart.
It is time for breakfast.	Il est temps de déjeûner.
It is not yet two.	Il n'est pas encore deux heures.
It is twelve o'clock.	Il est douze heures.
It is noon.	Il est midi.
It is half-past twelve.	Il est midi et demi.
It is afternoon.	C'est l'après-midi.
At what time must you go home?	A quelle heure faut-il que vous alliez chez vous?
It is dinner time.	Il est temps de dîner.
It will soon be night.	Il fera bientôt nuit.
It is time to go to bed.	Il est temps d'aller se coucher.
It is nearly midnight.	Il est bientôt minuit.
What time is it by your watch?	Quelle heure est-il à votre montre?

My watch has stopped.	Ma montre s'est arrêtée.
I have forgotten to wind it up?	J'ai oublié de la monter.
When are you going out?	Quand sortez-vous?
Towards three o'clock.	Vers les trois heures.
Between four and five.	Entre quatre et cinq.
He set off this evening at nine o'clock.	Il part ce soir à neuf heures.

Weather.

What kind of weather is it?	Quelle sorte de temps fait-il?
What beautiful weather.	Quel beau temps!
It is beautiful weather.	Il fait un temps superbe.
It is bad weather.	Il fait mauvais temps.
It is very windy.	Il fait bien du vent.
It is mild weather to-day.	Il fait bien doux aujourd'hui.
The weather is changeable.	Le temps est inconstant.
I fear it will rain.	Je crains qu'il ne pleuve.
It is very warm.	Il fait bien chaud.
Is it windy?	Fait-il du vent?
No, it is quite calm.	Non, il fait très-tranquil.
It is raining already.	Il pleut dejà.
It will not last long.	Cela ne durera pas longtemps.
We shall yet have a fine day.	Nous aurons cependant une belle journée.
It is so cold.	Il fait si froid.
It is very cold for this time of the year.	Il fait bien froid pour cette saison.
It rains very fast.	Il pleut très-fort.
It is beginning to rain.	Il commence à pleuvoir.
What dreadful weather!	Quel temps affreux!
I am quite wet.	Je suis tout mouillé.
I am wet through and through.	Je suis mouillé jusqu'aux os.
It is very dirty outside.	Il fait bien crotté en dehors.
It is now getting fine.	Il commence à faire beau.
It is a pleasant day.	C'est une agréable journée.
Oh, how warm it is!	Qu'il fait chaud!
It is a beautiful day.	C'est un beau jour.
I am very warm.	J'ai bien chaud.
The heat is unbearable.	La chaleur est insupportable.
I think we are going to have a storm.	Je crois que nous aurons de l'orage.
It hails.	Il tombe de la grèle.
It thunders.	Il tonne.
It lightens.	Il fait des éclairs.

Polite Terms.

Your obedient servant.	Votre serviteur.
I wish you good morning (day, night).	Je vous souhaite le bon jour (soir).
I am delighted to see you.	Je suis enchanté de vous voir.
I have not had the pleasure of seeing you for some time.	Il y a un siècle que je n'ai eu le plaisir de vous voir.
Pray put on your hat.	Couvrez-vous, je vous prie.
You are very kind.	Vous-êtes bien aimable.
You do me too much honour.	Vous me faites trop d'honneur.
Pray sit down.	Asseyez-vous, je vous prie.
I regret that your visit has been so short.	Je regrette que votre visite a été si courte.
I am rejoiced to see you so well.	Je suis ravi de vous voir en si bonne santé.
You are too kind.	Vous êtes trop bon.
I am very much obliged to you.	Je vous suis infiniment obligé.
It always gives us great pleasure to see you.	Nous sommes toujours bien enchantés de vous voir.

To assent, express thanks, and deny a request.

Be it so.	Soit.
Yes, certainly.	Oui, certainement.
Certainly.	Certainement.
That suits me.	Cela me convient.
With all my heart.	De tout mon coeur.
I am at your service.	Je suis à vos ordres.
You may do as you will.	Faites comme vous voudrez.
What do you want?	Que voulez-vous?
I am content with it.	J'en suis content.
That may be.	Cela se peut.
As you please.	Comme vous voudrez.
When you please.	Quand vous voudrez.
I have nothing against it.	Je n'ai rien contre.
I can refuse you nothing.	Je ne puis rien vous refuser.
I thank you.	Je vous remercie.
I am very much obliged to you.	Je vous suis infiniment obligé.
Many thanks.	Mille remerciments.
I thank you very much.	Je vous remercie beaucoup.
I accept it with thanks.	Je l'accepte avec mille remerciments.
You are very kind.	Vous avez bien de la bonté.
That cannot be refused.	Cela ne se peut pas se refuser.
I cannot.	Je ne peux.
It cannot be.	Cela ne se peut.
It is impossible for me.	Il m'est impossible.
It is impossible for me to fulfil your wishes.	Il m'est impossible d'accomplir vos désirs.
I will not hear of it.	Je n'en veux pas entendre parler.
I am very sorry, but I cannot do it.	J'en suis fâché, mais je ne pourrai le faire.
I assure you that I shall not do it.	Je vous assure que je ne le ferai pas.
I am obliged to refuse it to you.	Il faut que je vous le refuse.
It is not my business.	Ce n'est pas mon affaire.
I do not mix myself up in this affair.	Je ne me mêle pas de cette affaire.
I will have nothing to do with it.	Je ne veux pas avoir à faire à cela.
At some other time.	A tantôt. A quelqu'autre temps.
Pray excuse me.	Excusez-moi, je vous prie.
Do not be angry.	Ne vous fâchez pas.
It never occurred to me.	Cela ne m'est pas venu à l'esprit.
I assure you it is not my fault.	Je vous assure que ce n'est pas ma faute.
Tell him how sorry I am.	Dites-lui comme je suis fâché.

News.

Not a word of it is believed.	On n'en croit pas une seule parole.
Have you had letters from home?	Avez-vous reçu des lettres de chez vous?
I have had three by the last post.	J'en ai reçu trois par la dernière poste.
The postman has brought me a letter.	Le facteur m'a apporté une lettre.
What do your letters say?	Que disent vos lettres?
They bring me satisfactory news.	Elles me donnent de bonnes nouvelles.
Sad occurrences.	De fâcheux évènements.
Bad news.	De mauvaises nouvelles.

Expressions of Admiration, Approbation and Discontent.

It is delightful !	C'est enchanteur.
It is charming !	C'est charmant.
It is delicious.	C'est délicieux.
Wonderful !	Merveilleux !
It is admirable.	C'est admirable.
It is exquisite.	C'est exquis.
It is astonishing.	C'est étonnant.

I am surprised at it.	J'en suis saisi.
How very beautiful.	Que c'est beau.
What a beautiful prospect.	Quel beau coup d'oeil.
Who would have thought it?	Qui l'aurait pensé?
There is nothing more beautiful.	Il n'y a rien de plus beau.
One can have no idea of it.	On ne peut pas s'en faire une idée.
Well, that is right!	Allons, c'est bien.
Very well!	Très-bien!
What a pleasure!	Quel plaisir!
What joy!	Quelle joie!
How pleasant!	Que c'est agréable!
How happy!	Que c'est heureux!
I am charmed.	Je suis charmé.
I am very glad.	Je suis bien aise.
I am very much pleased.	Je suis fort aise.
That gives me much pleasure.	Cela me fait beaucoup de plaisir.
Everything happens according to my wish.	Tout se passe comme je le désire.
Everything smiles on me.	Tout me sourit.
Oh dear me!	Hélas! Mon Dieu!
How vexatious!	Que c'est vexant!
How painful!	Que c'est pénible.
How sad!	Que c'est triste!
What a misfortune!	Quel malheur!
How annoying!	Quel dommage!
What a vexations occurrence!	Quel évènement fâcheux!
I am very sorry.	J'en suis fâché.
Nonsense! nonsense!	Bah! bêtise! bêtise.
I am in despair.	Je suis au désespoir.
I am annoyed.	Je suis ennuyé.
How that grieves me!	Comme cela me fait de la peine!
That irritates me.	Cela m'irrite.
That annoys me very much.	Cela me vexe beaucoup.
I lose my patience.	Je perds patience.
Will you be quiet?	Voulez-vous vous taire?
It gives me much grief.	Cela me fait du chagrin.
That vexes me most.	Cela me désole le plus.

Friendship and Antipathy.

He is my friend.	C'est mon ami.
He is my intimate friend.	C'est mon ami intime.
I have a great regard for him.	J'ai une grande estime pour lui.
We are very intimate.	Nous sommes très-liés.
I liked him from the first moment I saw him.	Je l'aimais dès le premier moment que je le vis.
I am very glad to have made his acquaintance.	Je suis enchanté d'avoir fait sa connaissance.
His friendship is very dear to me.	Son amitié m'est bien chère.
Such a friend is a treasure.	Un tel ami est un trésor.
One finds few such real friends.	On trouve si peu de tels pareils amis.
I cannot bear this man.	Je ne peux pas souffrir cet homme.
His countenance does not please me.	Sa figure ne me plaît pas.
His manner displeases me.	Ses manieres me déplaisent.
He has not an agreeable expression.	Il n'a pas une bonne expression.
His society is a bore to me.	Sa société m'assomme.
I avoid him as much as I can.	Je l'évite autant que possible.
He is an unbearable man.	C'est un insupportable.
His chattering is unbearable to me.	Sa jaserie m'est insupportable.
She is a gossip.	C'est une véritable commère.
No one can be more tedious than this man.	Personne ne peut être plus ennuyeux que cet homme.
What an unbearable person!	Quelle personne insupportable!
I feel much better now.	Je me sens beaucoup mieux maintenant.
I am now quite well.	Maintenant je suis parfaitement bien.

Travelling.

We are thinking of starting to-morrow.	Nous comptons partir demain.
Where are you going?	Où allez-vous?
John, are the trunks packed?	Jean, les malles sont-elles prêtes?
Every thing is ready.	Tout est prêt.
Are the passports viséd by the Consul?	Les passeports on-ils été visés par le consul?
I have just received them.	Je viens de les recevoir.
Now we can set off.	Maintenant nous pouvons partir.
When does the next train start for Rouen?	A quelle heure part le prochain convoi pour Rouen?
At 2 o'clock.	A deux heures.
Then we must make haste.	Il faut que nous nous dépêchions.
Have you forgotten nothing?	N'avez-vous rien oublié?
Good-bye.	Adieu.
Adieu my dear friend.	Adieu mon cher ami.
I wish your a happy and pleasant journey.	Je vous souhaite un bon et heureux voyage.
Do write to us very soon.	Ecrivez-nous promptement.
We go by the Railway-omnibus.	Nous irons par l'omnibus du chemin de fer.
When do you start?	Quand partez-vous?
We start in ten minutes.	Nous partons dans dix minutes.
Get in if you please, Gentlemen	Montez, s'il vous plaît, Messieurs.
In what time shall we be at the Railway station?	Dans combien de temps serons-nous à l'embarcadère?
We shall be there in a quarter of an hour.	Nous y serons dans un quart-d'heure.
Here we are already at the station.	Nous voici déjà à la gare.
The train will start in five minutes.	Le convoi partira dans cinq minutes.
Take your ticket quickly.	Prenez vite votre billet.
Please to give me a first class ticket to Paris.	Veuillez me donner un billet de première classe pour Paris.
I want a second class ticket for Paris.	Il me faut un billet de seconde classe pour Paris.
What does it cost?	A combien cela monte-t-il?
Ten francs and two sous.	A dix francs deux sous.
What luggage have you, Sir?	Quels effets avez-vous, Monsieur?
I have two trunks, one carpetbag and a hat-box.	J'ai deux malles, un sac de nuit et un carton à chapeau.
How much luggage have I free?	Combien de bagage ai-je de libre?
Five and twenty pounds.	Vingt-cinq livres.
For the overweight you have to pay five sous per pound.	On vous fera payer cinq sous la livre pour le surplus du poids permis.
The train starts.	Le convoi part.
Here comes a train.	Voici un convoi qui vient.
Here we are at the first station.	Nous voici arrivés à la première station.
How long do we remain here?	Combien de temps resterons-nous ici?
Five minutes.	Cinq minutes.
We shall soon be at the end of our journey.	Nous serons bientôt au terme de notre voyage.
This is the last station.	Cette station est la dernière.
Tickets, Ladies and Gentlemen.	Vos billets Mesdames et Messieurs.
Are we already at Dijon?	Sommes-nous déjà à Dijon?
Yes, Sir.	Oui, Monsieur.
Here is my ticket.	Voici mon billet.
Let us fetch our luggage.	Allons chercher nos affets.
When does the steamer start?	A quelle heure le bateau part-il?
When must I be on board?	Quand faut-il que je sois à bord.
I advise you to be here by 6 o'clock at latest.	Je vous conseille d'être ici vers six heures au plus tard.

How long shall we take to cross?	Combien vous faut-il de temps pour faire la traversée?
If the wind be favourable we shall be at Calais in 2 hours.	Si le vent nous est favorable nous serons à Calais en deux heures.
I go in the first cabin.	Je prends une première place.
Give me a good berth.	Donnez-moi une bonne case.
The sea is very calm.	La mer est très-tranquille.
The sea is rough.	La mer est grosse.
I feel unwell.	Le ne me sens pas bien.
You are seasick.	Vous avez le mal de mer.
Lie down immediately.	Couchez-vous tout-de-suite.
Steward, bring me a glass of brandy and water.	Garçon, apportez-moi un verre d'eau de vie avec d'eau.
Is this the first time you have been at sea?	Est-ce que c'est la première fois que vous voyagez par mer?
No, but I am always seasick.	Non, mais je souffre toujours du mal de mer.
The wind is going down.	Le vent est moins fort.
The motion is less.	Le mouvement est moins fort.
Is that land, there?	Est-ce là la côte?
Yes, that is land.	Oui, voilà la côte.
We are now entering the Seine.	Nous voici à l'embouchure de la Seine.
We shall soon land.	Nous débarquerons bientôt.
The luggage will be taken to the custom-house.	Les effets seront portés à la douane.
As soon as it is examined we shall receive it.	Aussitôt que tout aura été visité nous l'aurons.
Your passports, Gentlemen.	Vos passeports, Messieurs.
You will find your passport at the police office, send for it there.	On vous rendra votre passeport au bureau de police. Envoyez y le chercher.
My trunk is marked M.M.	Ma malle est marquée M. M.
What is in your trunk, Sir?	Qu'y a-t-il dans votre malle, Monsieur?
My own wearing apparel, nothing more.	Rien que mon propre linge.
Nothing to declare?	Rien à declarer?
Not as far as I know.	Pas que je sache.
Open, if you please.	Ouvrez, s'il vous plaît.
All right.	C'est bien.
May I lock it again?	Puis-je la fermer?
Certainly, you have passed.	Oui, vous êtes libre.
Will you go to the Hotel in a cab or in an omnibus?	Voulez-vous aller à l'hôtel en cabriolet ou en omnibus?
I want a cab.	Je désire un cabriolet.
I go by the omnibus.	Je vais par l'omnibus.
Here is my luggage, two parcels.	Voici mon bagage, deux pièces.
The examination of the luggage is not yet finished.	Tout le bagage n'a pas été visité.
How long will it be?	Combien de temps cela durera-t-il?

At the Hotel.

To which Hotel do you go, Gentlemen?	A quel hôtel allez-vous, Messieurs?
To the Victoria Hotel.	A l'hôtel Victoria.
Have you any rooms?	Avez-vous des chambres.
What sort of rooms do you wish?	Quelles chambres désirez-vous?
I am alone, I only want a bedroom.	Je suis seul, je n'ai besoin que d'une chambre à coucher.
This room does not please me.	Cette chambre ne me plaît pas.
I require more light and air.	Il me faut plus de jour et plus d'air.
Can you not give me another?	N'en avez-vous pas une autre à me donner?

Please show me other rooms?	Faites-moi voir d'autres chambres, s'il vous plaît.
I prefer this one.	Je préfère celle-ci.
What is the charge of the room per day?	De quel prix cette chambre est-elle par jour.
Five francs.	Elle est de cinq francs.
With service?	Service compris?
No, service is charged separately.	Non, monsieur; le service se paye à part.
It is one franc a day.	C'est un franc par jour.
Well, I take the room.	C'est bien, j'arrête la chambre.
Two bedrooms and a sitting room on the first floor.	Deux chambres à coucher, avec un salon, au premier.
I want a double bedded room on the second floor.	Il me faut une chambre à deux lits au second.
You will find nice rooms and good beds.	Vous trouverez de belles chambres et de bons lits.
We hope so.	Nous l'espérons.
Will you be kind enough to enter the saloon.	Veuillez entrer au salon.
Take the luggage into my room	Mettez mes effets dans ma chambre.
Your luggage will be taken care of.	On aura soin de votre bagage.
Waiter take the Gentleman to No. 4.	Garçon, conduisez Monsieur au numéro quatre.
This room does not please me, it is too dark.	Cette chambre ne me plaît pas, elle est trop obscure.
I want a room overlooking the Seine.	Il me faut une chambre qui donne sur la Seine.
This room pleases me more, I will remain here.	Cette chambre me plaît mieux, j'y resterai.
Where is the bell in this room?	Où est la sonnette dans cette chambre?
Here, near the fire place.	Ici, près de la cheminée.
The bell does not ring.	La sonnette ne sonne pas.
Oh yes, but you must pull a little harder.	Si, monsieur, mais il faut tirer un peu ford.
You need only press the button.	Vous n'avez qu'a presser le bouton.
We should like to go to bed early.	Nous voudrons nous coucher de bonne heure.
Make a good fire.	Faites-nous un bon feu.
Are our rooms ready?	Nos chambres sont-elles prêtes?
Are the beds made?	Les lits sont-ils faits?
Let me be called at 5 o'clock.	Eveillez-moi à cinq heures.
Do not forget that I leave at half past 5.	Souvenez-vous que je pars à cinq heures et demie.
I remain here several days.	Je reste ici quelques jours.
I leave early to-morrow.	Je pars de bonne heure demain.
Be kind enough to bring me the bill, charge for the servants.	Veuillez m'apporter la note; chargez le service.
What do we owe?	Combien devons-nous?
Have you made out our bill?	Avez-vous fait notre compte?
How much is the bill?	A combien s'élève le compte?
Twenty francs.	Vingt francs.
A franc is 10 pence English money.	Un franc vaut dix sous anglais.
Do you take English money?	Prenez-vous de la monnaie anglaise?
Yes, centainly I take the pound at 25 francs.	J'évalue la livre à vingt-cinq francs.
I wish you a pleasant journey, Sir.	Je vous souhaite un bon voyage, Monsieur.

Hotel Service for Ladies.

Somebody knocks.	On frappe.
Come in.	Entrez.
Send me the chamber-maid.	Envoyez moi la chambrière.

Bring me come more cold, hot, water.	Apportez moi de l'eau fraiche, froide, chaude.
I want one or two more towels.	Il me faut quelques essuiemains deplus.
Bring me another towel.	Apportez moi encore une essuiemain.
I want a warm foot bath.	Il me faut un bain des pieds chaud.
It is too hot.	C'est trop chaud.
Put in cold water.	Ajouter de l'eau froide.
Please to brush my dress.	Ayez la bonté de brosser ma robe.
Please to clean my boots.	Je vous prie de me cirer les bottines.
They are kid, use a little oil.	Elles sont de peau de chevreuil, mettez de l'huile.
Will you hook my dress for me?	Agraffez moi ma robe s'il vous plaît.
Please to pin my collar.	Mettez une épingle dans mon collier.
Can you get some clothes washed for me?	Peut on me laver du linge?
By to-morrow morning?	Par demain matin?
Here they are.	Les voici.
With the list.	Avec la liste.
Can you give me a few pins?	Avez vous quelques epingles a me donner?
Can you lend me a needle, thread and thimble?	Prétez moi s'il vous plaît une aiguille, du fil et une dé.

Hotel Service for Gentlemen.

Bring me some hot water for shaving.	Apportez moi de l'eau chaude, je desire me razer.
Clean my boots.	Nettoyez mes bottes.
Brush my coat and trousers.	Brossez mon habit et mes pantalons.
Bring me a piece of soap.	Donnez moi du savon.
Get me a cab for the railway.	Appelez un fiacre pour le chemin de fer.
Let the luggage be taken down.	Qu'on descende les malles.

Breakfast and Dinner.

Have you breakfasted?	Avez-vous déjeûné?
Not yet.	Pas encore.
What will you have?	Que voulez-vous?
I drink tea.	Je prendrai du thé.
Give me some coffee.	Donnez-moi du café.
We have chocolate ready.	Il y a du chocolat tout prêt.
We will drink tea.	Nous prendrons du thé.
Bring us some tea.	Apportez-nous du thé.
I want two eggs boiled soft with my tea.	Il me faut deuz oeufs à la coque à mon thé.
How do you like the tea?	Comment trouvez-vous le thé?
Is it strong enough?	Est-il assez fort?
I do not like the tea, give me some coffee.	Je n'aime pas le thé, donnez-moi du café.
The coffee is good.	Le café est bon.
Give me another roll and a little more milk.	Donnez-moi encore un petit pain et encore un peu de lait.
Do you drink milk and sugar?	Prenez-vous du lait et du sucre?
Yes, both.	Tous les deux.
Give me some cold meat with my breakfast.	Donnez-moi de la viande froide à mon déjeûner.
I must make a good breakfast for I have a long walk before me.	Il faut que je déjeûne bien, car j'ai une longue promenade en perspective.
The chocolate is excellent.	Le chocolat est excellent.
Give me another cup.	Donnez-m'en encore une tasse.
I thank you, I have enough.	Merci, j'en ai assez.
I have made an excellent breakfast.	Je n'ai jamais si bien déjeûné.
Dinner is ready.	Le dîner est prêt.

We dine at the table d'hote at 2 o'clock.	Nous dînons à la table d'hôte a deux heures.
I dine with a friend to-day.	Je dîne chez un ami aujourd'hui.
I have come to dine with you to-day.	Je suis venu dîner chez vous aujourd'hui.
The table is laid.	On a servi. Le dîner est prêt.
Please to sit down.	Veuillez-vous asseoir.
I am very hungry.	J'ai bien faim.
I have no appetite.	Je n'ai pas d'appétit.
What have we for dinner to day?	Qu'avons-nous pour notre dîner aujourd'hui?
We dine à la carte.	Nous dînons à la carte.
Waiter give me the bill of fare and the list of wines.	Garçon, donnez-moi la carte et la liste des vins.
Do you like soup?	Aimez-vous la soupe?
Give me some good broth or rice soup.	Donnez-moi un bon bouillon, ou une soupe au riz.
Do you prefer vermicelli?	Préfèrez-vous le vermicelle?
This soup looks very good, it tastes very nice.	Cette soupe a bien bonne mine, elle a bon goût.
It wants a little more salt.	Il y manque un peu de sel.
Will you have some beef with sauce?	Voulez-vous du boeuf à la sauce?
Give me also the mustard and some potatoes.	Donnez-moi aussi la moutarde et des pommes de terre.
I must ask you for a piece of this leg of mutton.	Je vais vous demander une tranche de ce gigot.
The roast meat is very good.	Le roti est excellent.
That is too much, half will be enough.	C'en est trop, la moitié suffira.
Will you not have some of these vegetables?	Ne voulez-vous pas de ces légumes?
Cauliflower, green peas or spinach?	Choux-fleur, petits pois ou des épinards?
Help yourself as you please.	Servez-vous comme vous voudrez.
I should like to taste a piece of that pudding.	Je voudrais goûter un morceau de ce pouding.
Give me a glass of water.	Donnez-moi un verre d'eau fraîche.
I prefer a glass of beer at dinner.	Je préfère un verre de bière au dîner.
I should like to have half a bottle of Medoc.	Je voudrais avoir une demi-bouteille de vin de Médoc.
Drink a glass of wine with me.	Buvez un verre de vin avec moi.
Allow me to give you a glass of wine.	Permettez que je vous donne un verre de vin.
You do not eat.	Vous ne mangez pas.
I do not like the dinner.	Je n'aime pas le dîner.
I liked it very much.	J'en ai été content.
I have really dined very well.	J'ai très-bien mangé.
I thank you, I am quite satified.	Je vous remercie, je suis rassasié.
Let us now take our coffee.	Allons prendre notre café.
Waiter, two small cups.	Garçon, deux demi-tasses.
Do you desire cream, Sir?	De la crême, Monsieur?
No, no cream.	Non, point de crême.
Give me a little.	Donnez m'en un peu.
Very little please.	Très peu, s'il vous plaît.
Waiter, a glass of coffee.	Garçon, un mazagran.
What ices have you?	Quelles glaces avez vous?
A vanilla ice.	Une glace à la vanille.
Certainly.	Oui, monsieur.
Give me a glass.	Donnez-moi un bock.

The Menu at the Restaurant.

Vermicelli soup.	Potage de vermicelle.
Vegetable soup.	Potage à la julienne.

Pease soup.	Potage à la purée.
Gravy soup.	Potage consommé.
Boiled beef.	Boeuf au naturel.
Beef with savoury sauce.	Boeuf à la sauce piquante.
Ribs of beef.	Entre-côte.
Fillet of beef in gravy.	Filet sauté.
Sirloin of beef.	Aloyau de boeuf.
Stewed beef.	Boeuf à la mode.
Larded veal in gravy.	Fricandeau au jus.
Veal cutlets.	Côtelette de veau au naturel.
Veal cutlets fried in paper.	Côtelette de veau au papillote.
Calf's head with oil.	Tête de veau à la vinaigrette.
Calf's head, turtle style.	Tête de veau en tortue.
Fricassé of veal.	Blanquette de veau.
Calf's sweet-bread.	Ris de veau.
Mutton chops.	Côtelettes de mouton.
Chops fried.	Côtelettes au naturel.
Leg of mutton.	Gigot au jus.
Kidneys broiled.	Rognons à la brochette.
Chicken.	Poulet sauté.
Chicken devilled.	Poulet à la tartare.
Turkey and truffles.	Dinde truffée.
Hashed chicken.	Capilotade de poulet.
Chicken with salad.	Salade de volaille.
Collared fowl.	Galantine de volaille.
Duck and green peas.	Canard aux pois.
Duckling.	Caneton.
Boiled pigeon.	Pigeon à la crepaudine.
Fricassé of chicken.	Fricassée de poulet.
Fillet of venison.	Filet de chevreuil.
Jugged partridges.	Perdreaux en salmis.
Rabbit.	Gibelotte.
Woodcock.	Bécasse.
Snipes.	Bécassines.
Wild duck.	Canard sauvage.
Pheasant.	Faisan.
Omelette with sweet herbs—with sugar.	Omelette aux fines herbes—au sucre.
Poached eggs.	Oeufs pochés.
Fried eggs.	Oeufs sur le plat.
Boiled eggs.	Oeufs à la coque.

Changing of Money.

I wish to have this banknote changed.	Je voudrais changer ce billet de banque.
Can you change me a sovereign?	Pouvez-vous me changer un livre sterling?
I am sorry, I cannot.	Je suis fâché, mais je ne le peux.
I have not enough change by me.	Je n'ai pas assez de monnaie sur moi.
Where does the nearest banker live?	Où le banquier le plus proche demeure-t-il?
Will you have the kindness to change this gold for me?	Voudriez-vous bien avoir la bonté de me changer cet or?
What is the sovereign worth?	Combien vaut le livre sterling?
Five and twenty francs.	Vingt cinq francs.
Here is the bill.	Voici la lettre de change.
It is payable at sight.	Elle est payable à vue.
In what sort of money do you wish to receive the amount?	Dans quelle sorte de monnaie dêsireriez-vous recevoir la somme?
Give it to me in Napoleons.	En Napoléons.
The exchange is not very advantageous at this moment.	Le cours de change n'est pas très-avantageux en ce moment.
Then I will take it in 5 franc pieces.	Alors je le prendrai en pièces de cinq francs.

At the Theatre.

Will you go to the theatre to-night?	Voulez-vous aller au spectacle?
What play will be performed?	Que jouera-t-on?
Racine's Phaedra.	La Phèdre de Racine.
Then I will go.	Alors j'irai.
At what time does the theatre begin?	A quelle heure ouvre-t-on les portes?
At 7 o'clock.	A sept heures.
I must see that, procure me tickets immediately.	Il faut que je le voie, procurez-moi des billets immédiatement.
For what seats do you wish?	Quelles places voulez-vous?
I wish for three places in the dress circle.	Je désire trois places au premier rang.
A seat in the pit.	Une place au parterre.
Where are the tickets sold?	Où les billets sont-ils vendus?
At the door.	A la porte.
Buy a play bill.	Achetez un programme.
The curtain rises.	La toile se lève.
The Orchestra is excellent.	L'orchestre est excellent.
The actors are good.	La troupe est bonne.
This interlude will last sometime, we will refresh ourselves with an ice.	Cet entr'acte durera longtemps, allons nous rafraîchir d'une glace.
The second act commences.	Le deuxième acte commence.
The theatre is very full.	La salle est remplie de monde.
I am glad that I have so good a place.	Je suis bien aise d'avoir une si bonne place.
The costumes are very rich.	Les costumes sont très-riches.
The lighting up of the house leaves much to be desired.	L'éclairage laisse beaucoup à désirer.
Miss N. the actress is very beautiful.	Mdlle. N. l'actrice est fort belle.
That danseuse pleases me very much.	Cette danseuse me plait beaucoup.
What do you think of the play?	Que pensez-vous de la pièce?
The piece is interesting and pleases me.	Cette pièce est très-interessante et me plaît.
The piece was not performed well.	On n'a pas bien joué ce morceau.
The play is over.	Le spectacle est terminé.

Visiting.

Is Mr. N. at home?	M. N. est-il chez-lui?
I believe he is, may I ask for your card?	Je crois que oui, osé-je vous demander votre carte?
Here it is.	La voici.
Walk in if you please.	Entrez, s'il vous plaît.
Come in.	Entrez.
Good morning my dear Mr. N. I am delighted to see you so well.	Bon jour, mon cher M. N. Je suis charmé de vous voir en si bonne santé.
How long are you going to remain?	Combien de temps allez-vous rester?
Unfortunately only a few days.	Quelques jours seulement malheureusement.
I must be back in London the day after to-morrow.	Il faut que je retourne à Londres après-demain.
How time passes.	Comme le temps passe.
You have not altered.	Vous n'êtes pas changé.
Pray sit down.	Asseyez-vous, je vous en prie.
I am very much pleased with my journey.	Je suis fort content de mon voyage.
Unfortunately I must now return to England.	Malheureusement il faut que je retourne en Angleterre.
When shall we see you again?	Quand est-ce que nous vous reverrons?
That is still very uncertain, I hope next summer.	C'est fort douteux. L'été prochain, je l'espère.
Do not forget me.	Ne m'oubliez pas.

My best compliments to Mr. B.	Mes compliments affectueux à M. B.
I wish you a very pleasant journey.	Je vous souhaite un bon voyage.
Farewell.	Adieu.
Au-revoir.	Au revoir.
Adieu! Adieu!	Adieu! Adieu!

Apartments.

You have apartments to let?	Vous avez des appartements à louer?
Yes, I have several.	Oui, j'en ai plusieurs.
Can I see them now?	Pourrais-je les voir à présent?
With pleasure, be kind enough to follow me.	Avec plaisir, veuillez me suivre.
I want two furnished rooms, a bed and sitting room.	Je voudrais deux chambres garnies, une chambre à coucher et un salon.
I must have a nicely furnished room.	Il me faut une chambre meublée comme il faut.
The bed room is not light enough.	Il ne fait pas assez clair dans la chambre à coucher.
The sitting room is too small.	Le salon est trop petit.
I like the rooms.	Les chambres me plaisent.
How much do you ask for these lodgings.	Combien demandez-vous pour cet appartement?
I shall remain here at least three months.	J'y resterai au moins pendant trois mois.
Then you shall have them for 100 francs a month.	Alors vous les aurez à cent francs par mois.
That is too dear for me.	C'est trop cher.
Well, you shall have the rooms for 80 francs if you remain longer.	Eh bien, vous aurez les chambres pour quatre vingts francs si vous restez plus longtemps.
Well, I am contented with that.	C'est bien, j'en suis content.
Must I pay in advance?	Faut-il payer d'avance?
Can you also board me?	Pourriez-vous aussi me prendre en pension?
What do you ask for board and lodging?	Que demandez-vous pour nourriture et logement?
Can I come in to-day?	Pourrais-je entrer aujourd'hui?
Is the bed comfortable?	Le lit est-il comfortable?
I should like to sleep here to night.	Je voudrais dormir ici cette nuit.
Can you give me a latch key?	Pouvez-vous me donner une clef?
Where is the bell?	Où est la sonnette?
You can come in when you like.	Vous pouvez entrer quand vous voudrez.

THE INDUSTRIES OF GREAT BRITAIN:

THEIR RISE AND PROGRESS SINCE 1851.

1851 and 1900.

PARLIAMENTARY PAPERS as a rule are not pleasant reading. There are exceptions, of course, when they comprise the history of negotiations on grave International questions, when the issue is that of Peace or War, and the whole truth on both sides of the quarrel has to be made public. But when they are mere compilations of dry statistics, which, as the saying goes, may be made to prove anything, they are certainly *caviare* to the general, and almost repellent, except to the zealous student of Political Economy who is ransacking the figures of the Public Departments for deductions in favour of his individual theories. At the time, however, of the great Peace Gathering of the Nations in Paris, under the auspices of President Loubet, it is by no means an unprofitable task to glance back at the conditions under which its prototype—the Exhibition of 1851—was inaugurated, and to contrast the state of the Trade and Industries of the United Kingdom fifty years ago with that of the Empire of to-day.

In following such a course it may be worth while to recall the position of the country about the time when the project of an International Exhibition in London was first mooted. Sir Robert Peel had, only three or four years previously, carried, over the heads of his own followers, the Repeal of the Corn Laws. The immediate sufferers from this great fiscal change were the Country or Agricultural Party, which Count de Montalembert, studying English politics, dignified by the name of "the salt of their body politic." But it was not possible that this influential section of the community should undergo such a depreciation of property as was entailed by the abolition of the Duties on Corn without its losses being shared to an appreciable degree by other classes, and, therefore, although the Manchester School was exultant, and the working men, to use Sir Robert Peel's memorable words, "knew the reason why" the loaf was cheaper, there was undoubtedly for a time a wave of depression in trade. How heavily the cheapening of the loaf bore upon the landowner may be confirmed by the following fact. It used to be a frequent taunt against the Tory leader's principal assailant in the House of Commons, Benjamin Disraeli, that he was the last man in the world to champion the landowner and farmer, because he had not a penny at stake in the interest for which he acted as spokesman. But he himself always said that nobody on his side of the House had sustained a heavier pecuniary loss, comparatively, from the change, than he had as the owner of the small landed estate which his father, Disraeli the elder, had left him in the county of Bucks. It was heavily charged with payments to other members of his family which could not be got rid of; and when these were paid there was really nothing, or next to nothing, left to the successor to the property.

It was at this juncture that the Prince Consort put forward his scheme for the Exhibition in Hyde Park. Although it would be an exaggeration to say that commercial stagnation was at the bottom of the movement, as a matter of fact, however, Free Trade, by which the trade of the Empire has grown "by leaps and bounds," had not then become an accomplished fact. The country had to wait another ten years for Mr. Gladstone's adoption of the principle in his Commercial Treaty with France, and the concomitant fiscal arrangements with other European Powers. Yet no one can go back to the official statistics of Trade and Industry, even in 1851 and 1862, without recognising the big strides which the country had made within a decade in the advancement of Industrial progress; and, although *post hoc* is not always *propter hoc*, it would be idle to deny that the Hyde Park show gave an enormous impetus to the resourcefulness of the country at a moment when it was urgently needed. Of course, a vast variety of causes has been at work to develope the resources, and add to the prosperity, of the nation. The growth of population at home and in our Colonial possessions—the fresh facilities accorded year after year for communication with dwellers in the remotest parts of the globe, the augmented mileage of the railway system in every civilised country, the laying down and seconding of the submarine cables linking the continents together, have all been agents in the production and dissemination of wealth, yet to the reflective mind it remains a question whether without the object lessons afforded by the World's Shows forty and fifty years back the rate of progress would have been as rapid and the ends attained as beneficial. There is certainly no cause for discontent or alarm if other countries have participated in the improvement of which we can boast. There have been times when the influx of French knicknackeries frightened even Birmingham, and "made in Germany" seemed to threaten some of our small trades with extinction. But the terror is dying out. To-day we are more concerned with the calculated rivalry of Russian trading interests in the East, with the output of coal and iron and steel from Pennsylvania and other States of the great Anglo-Saxon Republic. But we hold our own. We send away more coal than ever, our exports of wrought iron and of steel are still going up, our machinery and implements command as good prices as ever, we remain the shipbuilders of the world! There is no indication in any quarter that high water mark has been reached, and that the ebb of the tide has set in.

Here are some interesting facts and figures in regard to our present exports, in comparison with those returned in the official reports of the ten years ended 1850. In the earlier tables the exportation of living animals—horses, mares, oxen, sheep, and swine—was so small, that it was not recorded. In 1898—the latest year of which the official statistics are published—the value of the horses and mares exported to foreign countries was £476,278, and to British possessions, £484,000. In 1850 we exported arms and ammunition to the declared value of £498,124. In 1898 this item had increased to £2,094,465. In 1850 the declared value of our national beverages—beer and ale—was £558,794. In those days nobody had heard of Lager beer, of Pilsener, or Strasburg ale. Yet, in 1898, the export had more than doubled. In 1850 Coals, Culm and Cinders figure under the one heading in the Export Table for the value of £1,284,224. In 1898 the value of the coal exported to Foreign Countries reached £15,738,195, and that sent out to British Colonial possessions £1,417,000. Coke and cinders reach the value of £551,116, manufactured fuel £428,563, and the products of coal, peat, etc., £152,446, making a total of close upon £19,000,000. There is every indication that the return for the year 1900 will be largely swollen by the consumption of coal, necessitated by the transport of troops and material to Cape Town and Durban. Strange to say to-day we are not very far from the date which Professor Jevons fixed for the exhaustion of our beds of coal. The suggestion was taken up eagerly by Mr. John Stuart Mill, who enunciated a solemn warning against our extravagance in the use of the black diamond, and was to some extent backed up in his protest by Mr. Gladstone. But coal is not the less a daily necessity of the poor as it is of the rich, and there is no Chancellor of the

Exchequer bold enough to exasperate the coal owning interest in the House of Commons by clapping on an Export Duty. Under the heading of "Machinery and Mill Work," or parts thereof, the exportation reached the value of £1,042,167 in 1850. In 1898 the value of these items reached the following figures:—

	£
Steam Engines, Locomotive	1,483,000
Steam Engines, Agricultural	687,934
Steam Engines, other descriptions	1,454,928
Agricultural Machinery (not being steam)	850,236
Sewing Machines	1,083,481
Mining Machinery (not steam)	716,377
Textile Machinery (not being steam)	6,628,012
Other descriptions (not steam)	5,485,405

This Return makes up a total of nearly £19,000,000, which is considerably above the average for the last five years.

Exports of iron and steel reached the declared value of £5,350,056 in 1850. The return for the year 1898 is of a more voluminous character, and gives the quality of the articles exported:—

	£
Iron, Old and Scrap, for re-manufacture	238,561
Pig Iron	2,738,274
Iron Puddled and Puddled Bars	819
Iron Bar	900,000
Iron, Angle, Bolt, and Rod	93,904
Railroad-rails, Iron and Steel	2,173,005
Railroad Iron Chairs and Sleepers	311,207
Railroad Iron, Unenumerated	526,773
Wire, Iron, and Steel, except Telegraphic Wire, and Manufactures thereof	772,604
Iron Sheets and Boiler Plates	388,601
Iron Sheets, Galvanised	2,532,376
Armour Plates	31,822
Iron Black Plates, for Tinning	42,414
Hoops and Hoop Iron	358,668
Iron, Tin Plates and Sheets	2,744,077
Iron Anchors, Grapnels, Chains and Cables	345,504
Iron Tubes and Pipes	916,166
Iron Nails, Screws, and Rivets	366,513
Iron, Cast, and Manufactures thereof	1,067,503
Iron, Wrought, and Manufactures thereof	2,066,683
Steel, Cast, in Ingots or Blooms	94,208
Steel, Bar, of all kinds	1,563,900
Steel Sheets	982,048
Steel Black Plates, for Tinning	40,472
Manufactures of Steel, or of Steel and Iron combined	904,231

representing a total of upwards of £22,000,000.

In 1850 the value of cotton manufactures entered by the yard was £20,530,435, of hosiery, lace, and small wares £1,343,262, of manufactures of all kinds £21, 873,697. In 1808 the value of our exported cotton manufactures reached close upon £65,000,000. The value of our exported woollen manufactures was, in 1850, about £18,000,000. In 1898 it had reached over £19,000,000—a very small rise it must be conceded, for half a century; but in these days of strong commercial rivalry, to keep moving is better than standing still or going back.

The Linen Industry in 1850 exported goods to the value of a little over £8,000,000. Here the falling off is decided, the figures in 1898 being less by three or four millions than those of the earlier period. But the decline is probably not owing so much to foreign competition as to a general absence of demand for a class of goods which has never reached the popular prices of rival wares.

The staple industries of the country having been passed in review, it is fitting that the newer products of our workshops and factories should be touched upon. Amongst these is the Cycle, which is hardly holding the prominent place it once occupied, but which still commands a good export trade. The value of the Cycles, and parts thereof, exported to foreign countries and British possessions was,. in 1898, £900,000. In 1897 it reached £1,400,220, and in 1896, £1,855,000. But competition is easy in cycle manufacture, and for cheapness, if not for durability, some of our foreign competitors distance us. For the present the craze about the Cycle has passed away, and everything points to the Motor Car as itsprobable successon the road. *L'Automobile* will naturally be at home at the Paris Exhibition, and it looks as if the French champions of the road would have an easy victory over our representatives.

Amongst the features of the Return of 1898 to which that of 1850 was a stranger are the Telegraphic Wires and apparatus, and the Electric Lighting apparatus. These figure respectively for £985,233 and £514,022. As the tables only cover the year 1898 nothing is set down as to the Telephone, although its use is daily extending, and it promises to supersede the Telegraph service as soon as cheap rates and easy access are afforded to the public. One omission, both in the annual statement of the trade of the United Kingdom in 1850 and 1898, deserves mention. The item of shipping is entirely ignored, although it is fully represented in the Return for 1899. Yet our building yards have for more than fifty years been in request by the foreigner; and within the last five or six years the number of steamers turned out from the Clyde, from Belfast, from the Thames, and other shipbuilding stations, has been unprecedented. It is surprising, for instance, that such works as those of Messrs. Thornycroft at Chiswick should be passed over without reference considering the number of magnificent torpedo destroyers and boats they have successfully launched. Moreover, the sale of steamers and sailing vessels to foreign countries within the last two years has surpassed all previous records, and a statement of the country's trade devoid of this item can scarcely be considered exhaustive. Still, there is plenty of food for reflection in the two Blue Books we have quoted, and any Englishmen may read them with justfiable pride in the past and hope for the future!

ANGLO-FRENCH COMMERCE, 1851-1900.

If Richard Cobden had lived up to the close of the century, and had desired to deliver a few striking facts and figures instead of arguments in favour of Reciprocity, Free Trade, Free Exchange, the common misnomer on the Continent, we need only have pointed to our commercial relations with France, and to the increased and increasing volume of trade which almost every year in the last four decades has witnessed. In the days when he and Bright and Villiers were stumping the country in favour of the limited agitation for the repeal of the Corn Laws, France and England neither bought of nor sold to each other. There was nothing in our produce that our neighbours wanted, and the only customers they had amongst us were the plutocrats, with whom the wines and brandies of the wine-growing districts and the *objets de luxe* of Paris and Lyons, which Dives purchased from French caterers when he paid his annual trip to the gay capital, were, so to speak, necessaries of his life and station. *Tempora mutantur nos et mutamur in illis.* To-day French produce is quite as much a necessity to the cottage of the poor man or the home of the small householder as to the Belgravian aristocrat, and although France, from its agricultural resources and its variety of climate, is a more self-supplying country than England, there would be very long faces throughout the land if British produce suddenly failed to reach the French market. Here is one little item which figures in our export return for the year 1898, without which many a thriving industry across the Channel would be hard put to it to hold its own in competition with Continental rivals—that of coal and its products. The value of our exportation of the black diamond for that year was a little over three millions sterling, whilst our chemical products and preparations, also largely employed in important French manufacturing works, reached the value of over half a million. It would surprise our readers doubtless to be informed that in the year 1850—twelve months before the opening of the first International Exhibition in Hyde Park—the total value of British and Irish produce and manufactures exported to France was less than that amount. It reached the sum of £2,401,000. Shade of Cobden! If the Free Trade apostle could revisit his old hives of industry, how would he greet the announcement that we had sold to Frenchmen machinery to the value of close upon a million and a half, and metals to that of one million, and woollen manufactures valued also at close upon a million and a half in 1898? It may seem the height of ingratitude, yet many Englishmen, it is to be feared, will be inclined to grumble at the fact that the whole value of our export trade with France was only £20,513,968 during that year, whilst our neighbours sent us over in return goods to the declared value of £51,306,703!

It may be left to learned pundits to argue out the question whether the balance against us is or is not a hard bargain, but with our dense population to feed in our big towns, our insufficient supplies of home-grown agricultural products, and the daily needs of every household throughout the country to satisfy, it is quite as well perhaps to buy of our nearest neighbour as to go further afield; and if one looks into the details of the annual bill of the French producer, one has perhaps still more cause to be thankful that the carriage of the goods supplied cost so little! Here, for instance, is one article of daily and universal consumption which figures for the amount of £2,183,845—Butter, Brittany of course, *cela va sans dire*. And our bill for butter is never likely to grow smaller! Here again are some figures for 1898 which will be interesting to the average householder, and which convey a useful lesson as to the great natural advantages which the French producer enjoys.

	Value. £.
Fruit—	
Almonds	36,925
Apples, raw	49,682
Cherries	176,239
Grapes	16,423
Nuts (other than almonds)	184,294
Oranges	21,831
Pears, raw	146,593
Plums	305,730
Plums (French and dried and prunes)	123,252
Unenumerated (raw)	116,679
Unenumerated (dried)	15,287
Unenumerated (preserved without sugar, other than dried)	40,952
Fruits and vegetables, preserved in sugar	85,902
Total	£1,319,789

There is one contribution of the horticultural growth of France which does not appear in the returns—that is, the lovely fragrant flowers that reach us almost in mid-winter from the Riviera. Possibly the produce of the Scilly Isles is somewhat in the way of the French gardeners, but the Frenchman has his revenge, for he sends us artificial flowers to the value of over half a million annually. Of course, wine and spirits swell the total considerably. Gladstone's Claret has taken firm hold of the British dinner table, another conquest, nothwithstanding the fierce competition from viticulturists in other parts of the world, and the fall in prices in the course of the last five and twenty years. The produce of the French vineyards sold to us reached in 1898 the large sum of £3,500,708, and spirits figured for another million. There is every reason to expect that the year 1900, with its concourse of nations assured, and in the full confidence that in spite of all complications at home and abroad, peace will be maintained, will prove a bumper year, and that the annual return will show a further improvement in Anglo-French trade relations.

It is not possible to make any comparison between our trade with Germany in 1850 and 1898, or to draw any conclusions from the figures published in the returns of those two years. In the former Prussia stood alone, and Germany comprised a number of small sovereignties, of which only some half dozen appear in the tables—Mecklenburgh Schwerin, Hanover, Oldenburg, and Kniphausen, the Hans towns, and Heligoland. As the latter island only became an integral part of the Empire long after the edifice had been crowned at Verseilles, it is difficult to see why its trade should fly the German flag. At any rate, the exportation of British and Irish produce and manufactures reached the sum of seven millions sterling in round numbers in 1850. In 1898 these figures had swollen to £33,331,701, showing a balance of some five millions in our favour; German exports reaching £28,534,159, the return being almost identical with that from Holland. Here again coal brings us over two millions, cotton yarn and various manufactures over three millions and a half, woollen and woollen yarn £2,852,234. A glance at the long list of items which are dispayed in the returns shows that there is scarcely a field of manufacture and industry in which there is not some sort of rivalry in the German Empire. But the figures we have here quoted ought to prove of some comfort to the crowd of persons who appear to have "made in Germany" on the brain! On the whole, Germany represents a less formidable competition than Belgium, whose imports into this country reach the large amount of £21,543,313, which head our exports to Belgium, both of our own produce and manufactures and of foreign and colonial merchandise by nearly ten millions sterling. On the whole, the contrast between our own export returns in 1850 and 1898 presents as favourable a result as our neighbours or our Continental and other rivals can show. In 1850 our total exports reached £77,367,885. In 1898 they were of the value of £294,013,988. Mr. Gladstone's expression "by leaps and bounds" was hardly an exaggeration!

THE PROGRESS OF ENGLISH ARCHITECTURE SINCE THE GREAT EXHIBITION OF 1851.

By Wm. WOODWARD, A.R.I.B.A., F.S.I.

PROBABLY none of the Arts and Sciences have made such distinct progress, during the last half century, as that union of the Arts and Sciences known as Architecture. Fortunately this is "in evidence" because, once erected, a structure remains for many years, to excite the admiration or disgust of contemporary critics.

Forty years ago the "Battle of the Styles" was raging in England, and the strong adherents respectively of Gothic and Classic Art have lived to see not the elimination of either, but a far better knowledge and appreciation of both in bold conception of the mass, and in beauty of detail. No style which can be truly denominated as an original outcome of the Nineteenth Century has been evolved; but in skilful planning, in varied and often picturesque façade, in scientific construction, and in healthy sanitation, the period between 1851 and 1900 will stand out in the future as distinctly worthy of the admiration of our successors.

A Royal Palace.

I am not able, unfortunately, to instance the erection of an English Royal Palace. Buckingham Palace remains as a poverty-stricken embodiment of unworthiness for the housing in the capital of the Monarch of the greatest Empire the world has seen. It would blush if it stood side by side with the palaces of minor continental States, and one can only hope that—and may the day be far distant—when the new King reigns, he will see the demolition of Buckingham Palace and the erection of a home better representative of the wealth and of the importance of the nation.

Cathedrals and Churches.

Ecclesiastical architecture has made splendid progress since 1851. The most loving and appreciative care has been bestowed upon the restoration and maintenance of our cathedrals; and, although a certain obtrusive and, at times, ill-informed society has meddled with the due repair and support of some of our heritages, only hearty thanks can be accorded to those in authority for a sustentation which posterity will, we must hope, fully recognise and follow. Our parish churches come well within the above observations, and the enormous number of new churches scattered over the Empire show an improvement in every phase of the art of architecture, which only further emphasizes the degradation to which Gothic Art had fallen during the first half of the Nineteenth Century. The Batty Langleys and Wyatts have gone, let us hope for ever. At least ninety-five per cent. of these new churches have been erected in the Gothic style, unquestionably *the* style for ecclesiastical work, the only important exceptions being the Brompton Oratory and the new Roman Catholic Cathedral now in course of erection off Victoria Street. Our one great and magnificent Renaissance Protestant Cathedral —Saint Pauls—is at last receiving that decorative finish for which it has been yearning for over two hundred years, and a scheme of Mosaic adornment, under the hand of that worthy and clever artist, Sir William B.

Richmond, K.C.B., R.A., is in progress, which, when completed, will undoubtedly excite the admiration of every beholder.

TOWN HALLS.

No doubt, the Town Halls of Belgium have so impressed Englishmen, that by persistent worry they have at last induced the authorities to supplant the old conglomeration of Coal and Corn Exchange, County Court, and Assize Court, by magnificent Town Halls and distinct Law Courts which certainly vie with those of our Continental friends; and although these new buildings have been confined to our provincial centres, it is to be fervently desired that in the new street from Holborn to the Strand the London County Council will build its Hôtel-de-Ville, and gather into one building those scattered remnants which now here, now there, do duty as offices for the richest municipality in the world.

BOARD SCHOOLS.

The Education Act has called into being many hundreds of Board Schools, and with few exceptions, it may be said that these buildings are simple in construction, and very appropriate in style, with due regard for the health and comfort of the children. If the studies and working of the Board Schools were as appropriate as the structures, there would be less complaint on the part of the ratepayers.

PUBLIC LIBRARIES.

Next to the Board Schools there have sprung up, as the result, again, of onslaught on the pockets of the ratepayer, Public Libraries. These buildings, principally the result of architectural competition, may also be said to be thoroughly satisfactory, and again, if the volumes read were as instructive as the walls which enclose them, less grumbling would be heard from those who have to pay.

TECHNICAL SCHOOLS.

Practically about a million sterling per annum is being expended in England upon Technical Education. This has necessiated of course the erection of special buildings, and it is not too much to say that astonishing strides have been made, architecturally, in this class of buildings, the result, partly, of valuable hints from the Professors of the various sciences. Personally, I think the greater part of this expenditure is wasted, as no corresponding ability is shown by those who partake of the instruction. The British workman moves not in either artistic or scientific attainments, and until he is forced to undergo a strict apprenticeship in the workshop no hope of his progress is to be expected.

SCHOOLS OF ART.

South Kensington and its numerous branches provide structures for our Schools of Art, but new Art Schools in England are few and far between, and I do not know that much can be said in the way of satisfactory progress since the year 1851. The Royal Academy of Arts provides instruction in its building off Piccadilly, and, like the Royal Institute of British Architects, offers prizes and studentships to encourage Art Students. The Surveyors' Institution, and the Institute of Civil Engineers has each erected its new home in Great George Street, and we should look forward to see some day erected a worthy building to house a new Architectural Museum, a new Royal Institute of British Architects, and new Painting, Sculpture, and Architectural Galleries in connection with the Royal Academy.

Museums, which may well come under the heading of Schools of Art, have not, materially increased in number since 1851, but the Provinces have not been idle, and London has had its share in the Natural

History Museum at South Kensington, an example of the use of terra cotta which must rejoice the hearts of those who like that material. I dislike it, not only because of its hard and cast-iron effect, but because I very much doubt its lasting qualities, especially when subjected to the London atmosphere.

SWIMMING BATHS.

Much needed progress has been made in the erection of Public Swimming Baths. Both in the engineering part of these buildings, as in the architectural, no ground exists for complaint, and it is to be hoped that England will quickly multiply these most desirable buildings—they need be only of the very simplest and cheapest form as buildings, and this would enable the charges for admission to be lowered to almost a nominal sum, and thus lead to rapid increase in the art of swimming, and reduction in the number of the great unwashed.

LUNATIC ASYLUMS.

A very remarkable increase in the number of lunatics has taken place in this country since 1851. I mean, of course, a remarkable increase in proportion to the increase in the population. Whether to the go-a-headness of the day, to the increase in drink, or to some insane desire to live in a healthy building in the country with every comfort provided I know not, but huge structures are now being eercted, at the cost of many millions of money, to house those who come under the denomination of lunatics. These Lunatic Asylums are fine examples of architectural science, if not of beauty, and one can well hope that we are nearing the day when adequate provision for our unfortunate fellow-creatures will have been made.

WORKHOUSES.

If there has been a disposition on the part of the authorities to make Lunatic Asylums attractive, there has been no falling off in this respect as regards our Workhouses. The continued prosperity of the country has, of course, lessened the number of candidates for Workhouses, and the new buildings which have taken the place of the old have shown marked advance in healthy and scientific construction, but, in some instances, much money has been wasted in architectural ambition, resulting in altogether inappropriate work, again at the expense of the poor ratepayer.

HOSPITALS.

Hospital buildings have not increased in the same proportion as Lunatic Asylums, but where new buildings have been erected, we find the same thoughtfulness in planning, and the same results of sanitary knowledge as in other modern public buildings. No doubt, the efforts of the Prince and Princess of Wales will result in the much needed increase in these buildings, and I trust that in every new structure ample provision will be made for waiting rooms for out-patients. It is distressing to find so many poor people standing outside our Hospitals and Dispensaries, in all weathers, waiting for attention and medicine.

PRISONS, COUNTY COURTS, AND POLICE COURTS.

We, fortunately, have little to record in the way of increase in our Prisons. In fact, that at Millbank has been demolished, and its site dealt with for a Picture Gallery, artizans' dwellings, etc. Newgate is about to be pulled down, and with it England will lose the finest piece of appropriate Prison architecture which she possessed. It is to be hoped that any new Prison will be relegated to the country, and that its architecture will be equal to that of Newgate.

HOTELS AND RESTAURANTS.

I suppose that in no department of Architecture has there been greater progress made since 1851 than in that of hotel building. In the Provinces, as in London, the various companies have vied with each other in providing every comfort and luxury which money can secure. The "service" of the modern hotel is well nigh perfect, and the sumptuous state rooms, as well as the bed and sitting rooms, have had expended upon them the work of true artists, whilst sanitary considerations have invested hotel life with immunity from disease, which the wretched average hotel in 1851 seemed purposely designed to engender.

In connection with some of the Hotels have been erected magnificent *Restaurants*, where, in spacious and beautiful rooms, one may obtain well-cooked food, well served, from the humble chop to the daintiest entrée of a Parisian establishment.

It is not too much to say that the most recent of our new Hotels will compare, architecturally, most favourably with those of our Continental friends.

DOMESTIC ARCHITECTURE.

Unquestionably, however, the greatest strides in achitectural development have appeared in connection with the building of our dwellings. Planning on economical lines, beauty of accessory, and comfort and health in their true interpretations, constitute the vast difference between the dwelling of 1851 and that of the present day. Add to this artistic decoration in ornament, painting, stained glass, and wall papers, and compare them with the work of 1851, and I think my encomiums on Domestic Architecture will not be found to be exaggerated. The above observations, *mutatis mutandis*, apply equally to the artizans' dwellings and buildings generally, for the labouring classes.

STREET ARCHITECTURE.

A walk through any of the principal provincial towns, and in London, will show conclusively that the lessons gained on the Continent have not been lost in England. Indeed, the improvement in street architecture since 1851 is much more marked in London than in any Continental city. Practically, Paris, Vienna, and Berlin have added little worthy of admiration during the last quarter of a century; Belgium and Buda-Pest have gone ahead, and England has been by no means left behind. London street architecture, from its beauty and variety, is to be much preferred to the long unbroken lines of some of the Continental examples, and in the new street now about to be formed between Holborn and the Strand architects will have an opportunity which it is to be hoped will be adequately met.

BUILDING CONSTRUCTION.

The enormous use of iron, steel, and concrete is due to a large extent to fear of the spread of fire, and although, in large conflagrations, this can be only partial, there can be little doubt of the extra safety from fire-resisting construction. But the extraordinary increase in the use of steel for girders, etc., has necessarily diminished iron-work, the former, for its lightness and great increase of strength, being now almost universally adopted.

Another large trade has sprung up in the adoption of glazed materials for baths, urinals, walls, etc. White glazed bricks and tiles have quite revolutionised modern building works, and, because of ultimate saving ot money for periodical painting, and of great addition to light, the use of this material is likely, in the future, to be greatly increased.

SANITATION.

Perhaps the modern underground public urinals and lavatories will furnish as good an idea as is possible of the development of sanitation since 1851. Perfect cleanliness prevails, and here the use of the white glazed materials referred to above will be thoroughly appreciated. It is not too much to say that some of our public conveniences, in the use of marble, mosaic, and glazed material, approach the sumptuous, and although erected at the cost of the ratepayers, it is found that they repay the cost by the return in money payments, and leave a margin behind.

The various Public Health enactments have secured vast improvements in the sanitation of the dwelling, and although, in some instances, the fads and fancies of officials are disturbing, the large decrease in the death rate must atone for isolated instances of absurdity.

SUMMARY.

The space at my disposal has been necessarily small, and my condensation may have resulted in the omission of much which might otherwise have been said on this important subject, but enough will have, I hope, appeared to show that, as in many other matters, although England has been slow of progress, when she starts she goes ahead. Architectural education, facilities for cheap travelling, wealth of the community, and the efforts of Parliament and Municipal bodies have at last stirred England to action, and whether it is to Cathedrals and Churches or to the large mass of buildings which may come under the generic term of Domestic Architecture, there is not the least doubt that in design, building, decoration, stained glass, sanitation, and all that goes to make perfect architecture, England's progress since 1851 has been immense. That progress shows no sign of diminution, and we may reasonably look forward to the next Exhibition, which may possibly be in London, to find England in the very front of architectural attainments. Her parks and open spaces are now well cared for, and the latter are not allowed to be covered, heedlessly, with bricks and mortar. Her rivers are gradually being purified, and with these accessories properly developed, London will continue to be the healthiest and the most beautiful, as she is the greatest of modern cities.

LIFE ASSURANCE.

IT is only right that in this volume a few words should be said regarding Life Assurance, especially when it is remembered that the third International Congress of Actuaries is being held in Paris in the Exhibition year.

The first International Congress met in Brussels in September, 1895. The idea of convening such a gathering originated with the late Monsieur Léon Mahillon, at that time the head of the Belgian Caisse Générale d'Epargne et de Retraite. There had been a debate in the Belgian Parliament on a Bill relating to Friendly Societies, and one of the speakers had ironically asked "What was an Actuary?" Monsieur Mahillon determined to give a practical answer to that question by bringing together in Brussels the leading Actuaries from all parts of the world. The result was a great success. Valuable papers on various subjects were read and discussed; and the warm hospitality offered by the Belgians to their visitors, with the social intercourse between the Actuaries of many nationalities, produced a comradeship which is likely to be enduring. Not only have two Congresses since been organised, but a Permanent Committee arose from the Belgian Congress, which comprises in its ranks the leading men of both hemispheres; so that, by means of this central organisation, Actuaries can co-operate whenever questions arise requiring combined action.

The second Congress was held in London in 1898; and, although technical subjects were discussed, the greater part of the time of the gathering was devoted to the consideration of great social questions, such as the position of Friendly Societies in various countries, Old Age Pensions, Compensation to Workmen for Accidents, and Legislation in relation to Life Assurance. The membership of the Congress in London was very much larger than that of its Brussels predecessor, and we believe that there is every likelihood of the numbers attending the Paris Congress again showing a great increase. The questions set down for discussion in Paris are more technical than those debated in London, and, therefore, perhaps not so interesting to the general public; but, nevertheless, the public will benefit by the deliberations of the experts, because Actuarial science will thereby be advanced, and an impetus will be given to the beneficent institution of Life Assurance.

The origin of insurance is lost in antiquity, and possibly the first insurance contract may have been entered into in Italy; but in London the first insurance companies were organised, and there also the mathematical and statistical basis of the business was first studied, and has made the greatest advance. In ancient days Marine Insurance took precedence; but soon, from insuring ships and their cargo, the merchants passed to insuring the life of the captain for a particular voyage, because on him the success of the voyage mainly depended; and, life insurance in this form proving extremely useful, it gradually developed into the great beneficent institution which we see at the present day.

The earliest Life Policies were in very curious form. They did not guarantee a payment at death, but they actually *assured* the life, the contract being that, in consideration of the premium, the company promised and assured that the nominee should, by permission of Almighty God, live and continue in this natural life for and during a given term; and the company simply undertook to pay damages in the event of that contract not being fulfilled. In those early days whole life assurance was not thought of, but it was the custom to assure the life for a term, generally not exceeding one year; and no difference was made in the rates of premium for lives of varying ages. There are still two companies, viz., the "Royal Exchange" and the "London Assurance," which were founded in 1720, and which have since, without intermission, conducted active operations, progressively adjusting their system to comply with public demands. For many years they limited themselves to contracts of the nature above described; and it was not until 1762 that Life Insurance, as we now know it, really began. In that year the "Equitable Life Assurance Society" was established. The Government refused a Charter, because it was deemed inadvisable to give Government sanction to a scheme which might prove a failure; but the organisers of the movement had faith in their methods, and, as a private partnership, they launched their venture. They determined to grant whole life policies, and to charge premiums uniform throughout life, and graduated according to the age at entry; and their first scales of premiums were based upon a Mortality Table prepared from the mortality of the year 1741 by James Dodson, author of the "Mathematical Repository," who was associated with Thomas Simpson, the well-known mathematician, in founding the society. Later on the "Equitable" adopted Tables derived from the London Bills of Mortality; and later still they passed to the Northampton Table, constructed by Dr. Price from the Statistics of the Parish of All Saints, Northampton, during the forty-six years from 1735 to 1780.

The early Mortality Tables, on account of defects in their construction, caused the premiums charged to be too high; and the "Equitable" was so successful in consequence, and accumulated such vast surpluses, that presently other companies were started, and an impetus was given to the study of vital statistics, so that more trustworthy data might be gathered on which the operations of Life Assurance, now rapidly developing, might be safely conducted.

The earliest writers on Life Assurance and Actuarial questions were English. E. Halley, the Astronomer Royal, published the first Mortality Table in the "Philosophical Transactions," in 1693. We have already mentioned Dodson, Simpson, and Price; but we must not forget De Moivre, the author of a celebrated hypothesis, by which he strove to represent in mathematical form the law of mortality; Joshua Milne, who prepared the first Mortality Table constructed on scientific principles from the statistics of two parishes in the town of Carlisle, from the years 1779 to 1787; Francis Baily, who wrote a most valuable Treatise on the Mathematics of Life Assurance; and Griffith Davies, who, in 1825, prepared a Mortality Table from data derived from statistics given in the annual addresses of the Actuary of the "Equitable" Office. These forerunners in Actuarial science have been followed by many others, and in 1843 a Committee of Actuaries in London prepared a Mortality Table derived from the mortality experience of seventeen British Life Offices. In 1848 was founded the Institute of Actuaries, the parent of all Actuarial Societies (chartered in 1884), which held its Jubilee at the London Congress in 1898, and which has justified its existence by publishing a Quarterly Journal, from June, 1850, without intermission, to the present day; by preparing Text Books of Actuarial Science, which are studied throughout the world; by organising examinations and classes for Actuarial students; by compiling in 1869 the mortality experience of twenty British Companies, on which experience the premium rates and reserves of the great majority of companies, not only in the United Kingdom, but throughout the world, are now founded; and, in conjunction with the Faculty of Actuaries in Scotland, by organising a further great enquiry into the value of human life, based upon the experience of over sixty companies. This enquiry is at present in rapid progress, one volume on annuities having already been published, and it is expected that the results as regards assured lives will very shortly be given to the world.

It is not our purpose here to discuss in detail Life Assurance or Actuarial Science, but rather to take up briefly a few points which may interest the general public. Perhaps the most important feature of Life Assurance, as it has hitherto been practised in Great Britain, and as it has been developed in Europe, in America, and in Australia, is that of Bonuses. The system of Bonuses arose, as it were, accidentally. As already mentioned, the "Equitable" Society, a purely mutual office, charged in the beginning much higher premiums than were really necessary, because the true rates of mortality were unknown, and the founders erred on the safe side. Huge surpluses accrued, and had to be dealt with; and, naturally, they were distributed among the members in the form of additions to their policies. This bonus element, which had in it a little of the nature of speculation, became so popular, that other companies, even after the rates of mortality were measured with sufficient accuracy to enable safe and at the same time low premiums to be charged, deliberately added what is technically called a "loading" to the rates produced by the Mortality Tables, so that they might return the surpluses thus created to the policy-holders; and at the present day the majority of the companies, if not all of them, have two different scales of premiums—the one non-profit, under which a fixed sum is guaranteed, and the other with-profit, the assured under which are entitled at periodical intervals to share in the surpluses; and it is a curious fact that the public much prefer, in so far as family provision is concerned, to assure on the higher scale, and that the non-participating policies are asked for almost entirely as security for loans, and in other financial transactions.

When the Equitable Society first inaugurated Life Assurance in its modern form, we believe that policies were granted only for the whole of life, in consideration of annual premiums, also payable until death. Later on, a useful innovation was introduced, for which the late Charles Ansell claimed credit, by the limitation of the payment of premiums to a fixed number of years, the sum assured being still payable only at death. By this change, while there was a somewhat greater burden on the policy-holder during the active years of his life, he yet relieved himself of anxiety as to being able to maintain his policy when his income might be reduced on account of his failing powers; and at one time a large business by way of limited payments was transacted. In time, a further improvement was introduced by arranging for the sum assured to be payable at a given age or at previous death, so that by this means a man might not only secure his family against want should he die prematurely, but also provide for his own old age. The system of Endowment Assurance, as this class of policy is called, is of comparatively recent origin. It cannot be said with certainty when it was introduced, but for many years only few policies were effected of this nature. At the present date, however, Endowment Assurances are becoming more and more popular, and we are probably not exaggerating when we say that nearly two-thirds of the number of policies now granted by many of the companies are Endowment Assurances. While the offices wisely try to meet the demands of the public, and to issue to them such policies as they desire, yet, unquestionably, there are disadvantages in the Endowment Assurance plan. A man on arriving at say, aged 60, will receive the money, and, if he is wise, he will invest it to secure provision for his own declining years, and for his family at his death; but, on the other hand, he may spend it, or speculate with it, and thus he may defeat the objects for which his policy was originally effected. From the point of view of the company, too, the Endowment Assurances present a difficulty. Because of the obligation to pay the sum assured on the attainment of a given age instead of only at death, much larger reserves have to be kept in hand, and the onerous duty falls on the management of finding safe investments at remunerative rates of interest for vast accumulations. Moreover, although as yet there has not been time for events to be fully developed, the day is coming when the companies will be called upon to pay out large sums in respct of maturing endowments, and they will not find it so easy as heretofore to maintain and to increase their premium income. More effort will be required to replace by new members those who are retiring, and it is possible that the expenses of management may thereby be increased. Nevertheless the companies have no option but to meet the public demand, and it will be for the Actuaries and Managers of the future so to arrange that no detriment shall be thereby incurred.

In many countries the Legislatures have paid special attention to Life Assurance, and very strict rules are laid down for the management of companies. It seems to have been assumed by the Governments that the Actuaries and Managers were not to be trusted, that they did not know their business, or, knowing it, were unworthy of confidence, and that it was necessary for the State to step in so as to make sure that the business should be conducted in a safe and honest manner. One object of the Actuarial Congresses is to try to convince the Governments that greater liberty will be beneficial to all parties; and the example of Great Britain is urged to show what are the principles that can to the benefit of all be adopted. Until 1870 there was practically no legislation in Great Britain specially affecting Life Offices, but the failure, through gross mismanagement, of two great companies, induced Parliament in that year to pass an Act which in a way has regulated the business ever since, and which has been found, with small exceptions, to work most satisfactorily. The principles of that Act are to give the companies practically unlimited freedom, but to provide that they shall, by publishing their accounts and valuation returns in specified form, let the public know exactly what they are doing. There is no State supervision, or State control, but it is left to the public to find out for themselves from the filed accounts what the standing of the various companies is. The public themselves, on account of the technical nature of the accounts of a Life Office, are not capable of forming a sound opinion; but, nevertheless, experts can with very little trouble ascertain approximately the position of any company; and the Insurance Press, acting usually with great judgment and under the advice of skilled Actuaries, criticises the accounts, and in this way a healthy public opinion is created. The result has been that since the passing of the Act of 1870, which established the system of freedom and publicity, very little has been left to be desired. The companies are entirely untrammelled in their management, and are left free to develop their business in such ways as they may please; while the public are protected, far more effectually than by Government inspection, against incompetence and fraud. Were Government supervision to be introduced, and were a standard of solvency to be insisted on as some people have desired, the effect would be to relieve the management of much of their responsibility, and to cause the companies to be content should they only reach the standard of solvency. The effect of freedom, combined with publicity, is to make the management appreciate the weight of their duties, and to stimulate a competition among the companies towards strengthening their reserves, so as to inspire the public with confidence; and the result has been that since 1870 the proportionate strength of the companies has been enormously augmented. This process will no doubt continue, with the result that no financial institution for solidity and strength will be comparable to a British Life Office.

We should have liked to have been able to show what is at present the total amount of life business transacted in the United Kingdom, but that is impossible. The companies make up their accounts and valuation returns to different dates; but this is not the principal difficulty.

Some of the British companies transact a very large foreign business, and the published accounts do not disclose what proportion this bears to the total; and again, there are several foreign companies which transact life business in the United Kingdom; and, although they lodge their returns with the British Board of Trade, yet these returns include the whole of their business, and not only the British portion of it. We can therefore only say that the amount of business transacted in the United Kingdom is very large, without our being able to give any figures.

Perhaps it is in the field of Industrial Life Insurance that the most marvellous developments have of late years taken place. There are in the United Kingdom eleven Industrial Insurance Companies, as distinguished from Friendly Societies. These offices collect in weekly pence immense incomes from the working classes, and the sums assured by their policies, although each policy is individually small, reach an enormous total. The Prudential Assurance Company overshadows all its rivals in this field. In its early days (it was established in 1848) it met with many difficulties, and much opposition, and for some time, we believe, it was even a question whether it could succeed. But long ago it overcame every obstacle, and is now, without question, the most marvellous private organisation in the world. Suffice it to say that in its Industrial Branch it collected in 1899 no less a sum than £5,168,958 in weekly pence, and that on December 31 of that year there were on its books 13,433,785 Industrial Policies, we believe all of them effected in the United Kingdom, the company having no foreign agencies. Several of the other Industrial Companies, although much smaller than the Prudential, are of respectable magnitude; and in addition to these, there are many large Friendly Societies which, under a different name, transact a similar business. Surely here we have good evidence of the thrifty tendency of the British industrial classes. G. K.

FIRE INSURANCE.

From the scientific standpoint, fire insurance is not nearly so interesting as life assurance. Quite a library of mathematical volumes has been published regarding life assurance. It has been found that, however uncertain the duration of the lives of individuals may be, yet, when large numbers are observed, something like a uniform law exists, to the discovery of the nature of which many celebrated mathematicians have devoted much fruitful labour. On account of the approximate uniformity of that law, mathematical formulas can be used in the calculation of life premiums, and, even when climatic or other conditions cause the rates of mortality more or less to vary, the principles not being altered, the same mathematical forms can be applied. Similarly, in the periodical valuations of life offices, complicated mathematical processes are employed, on which many interesting and instructive essays have been written.

With fire insurance the case is very different, and the methods employed are much more empirical. Careful records are kept of the experience of the companies in different classes of risks, and from these the rates of premiums to be charged are arrived at, but without any pretence to scientific precision. Changes in manufacturing processes, too, may suddenly change the character of the risks; and, therefore, while the rates of life premiums remain practically uniform for long periods of time, the rates of fire premiums are constantly being changed.

The contract of fire insurance also differs much from that of life assurance. It is simply a contract of indemnity, and the policy only fixes the maximum sum which can in any circumstances be recovered. Only the loss actually caused by the fire will be made good, no matter to what amount the property may be insured. Thus, for instance, if a merchant have produce which costs him, say, £1,000, and if he insure against fire for that sum, and if the whole of the produce be destroyed by fire when the market value is only £900, then £900 is all that the office will pay, although perhaps the merchant had been holding the goods for an almost certain rise in price. Again, a householder can only recover the value of his furniture destroyed by fire, after allowing for wear and tear. He cannot, because of a fire, obtain a new carpet for an old one. These conditions have been found necessary in fire insurance, because of the temptation there might be to have accidental fires if profit could be made out of them.

In Fire Insurance business, the British offices have taken the lead, and we believe that several of them are much larger than any to be found elsewhere. At least four can boast of premium incomes of well over a million sterling, and one of these has an income of over two millions. They have branches and agencies in every part of the world, so that there is hardly a town of the least importance where they are not represented. By thus spreading their operations, they increase their own stability, and minimise the effects of great conflagrations. A Fire Office, confining itself to a narrow district, would run great danger of overwhelming loss, which it may entirely escape by insuring risks spread over large areas, and including trades and businesses of every description.

In former days, a tax was levied on Fire Insurance business in the United Kingdom, and from the proceeds of the tax the exact amount of the business there transacted could be ascertained. The tax was, however, removed in 1869, and since that date there has been no trustworthy clue as to the magnitude of the transactions of the Companies. It is, however, very large, and is constantly increasing.

OTHER FORMS OF INSURANCE.

The principle of combination to provide for losses caused by the perils of navigation, by fire, and by death, having been successfully applied in marine, fire, and life insurance, has been widely extended in other directions. The advent of railways roused the public to the dangers of personal accidents, and led in 1849 to the establishment of the Railway Passengers' Assurance Company, the oldest office of its kind. The benefits insured by accident offices have been greatly enlarged in course of time, and now include the payment of a substantial sum if, as the result of an accident, the assured dies or loses two limbs or both eyes; or a smaller amount if he loses one limb or one eye; the compensation being doubled if the injuries are incurred in a railway accident. An annuity is paid in the event of permanent disablement arising from causes other than the loss of limbs or eyesight mentioned above, and weekly allowances are granted during temporary, total, or partial, disablement, whether resulting from accident or from certain specified infectious diseases, the temporary allowances for accidental injuries being doubled when the injuries are sustained in a railway accident. The premium is fixed without reference to the age of the insured, the contract of insurance being made for a period of one year, and being renewable annually at the option of either party. An accident policy therefore forms an excellent provision against those unavoidable mishaps which either temporarily deprive the bread-winner of his earning power, or destroy his usefulness for ever.

Sickness insurance is also transacted by a few companies, at premiums graduated according to the age at entry of the insured, compensation being paid during disablement arising from a more extended list of diseases, than those covered by a sickness and accident policy; while, under one scheme, the payment of a higher annual premium secures the return at the death of the assured of all the premiums he has paid.

The Employers Liability Act of 1880, which rendered an employer liable to pay compensation to his workmen for injuries received under special circumstances in his employ, opened a fresh field of activity to accident offices, of which they were not slow to avail themselves; and the public need of their services was again augmented by the Workmen's Compensation Act, which was passed in 1897, and is based on the wider principles of the German and Austrian laws relating to workmen's insurance.

Damage to and by horses and vehicles, injuries to the general public entailing responsibility on business firms or private individuals, compensation to persons injured by lift accidents, the breakage of plate-glass, damage to crops by hailstorms,, and the loss of live stock, are all made the subject of insurance.

Almost peculiar to English-speaking countries is fidelity guarantee insurance, by which a person occupying a position of trust may pay an annual premium to a company to become surety for the faithful discharge of his duties, and the due accounting for the money entrusted to him. This system avoids the difficulty of incurring a lasting obligation to a personal surety, who is called upon to undertake a serious and sometimes a costly responsibility; while it is a distinct improvement upon the usual Continental system of lodging a cash deposit, frequently only to be borrowed at a high rate of interest.

One of the most recent developments of insurance is provision against loss arising from burglary and housebreaking. This, like most of the schemes above referred to, had its birthplace in Great Britain, but is making progress in Germany and elsewhere, and has justified its existence by the amount already paid in claims.

Among less important but very useful applications of the system are insurance against loss of keys, and loss of luggage when travelling; and, as a curiosity, it may be mentioned that underwriters at Lloyds are occasionally asked, and agree, to accept a premium to provide compensation for the unhoped-for arrival of twins in the family circle. The life offices, moreover, have long been accustomed, in order to facilitate financial transactions of a certain class to grant policies against the birth of heirs to the life tenants of entailed estates; and it may be said that at the present day almost every possible contingency which might involve a pecuniary loss may be insured against. In course of time this very wide extension of the principles of insurance will result in the accumulation of a mass of useful statistics, which may be turned to good account in the solution of other important social questions.

CHEMICAL INDUSTRIES.

By C. EDWARD SAGE, F.C.S.

NO other science presents such an uninterrupted record of progress during the past fifty years as Chemistry, and the industries which are dependent upon the accurate application of chemical knowledge are too numerous to mention. There is practically no trade now which does not seek the aid of chemistry, and the surest sign of progress in any manufacture is marked by the advent of the skilled chemist. It is therefore somewhat difficult to follow the progress of technical chemistry in all the manufactures which it has either aided or created by research.

At the time of the Great Exhibition of 1851 the chemical manufactures of this and other countries were in their infancy, and the discoveries of the past fifty years have not only raised the importance of these, but have added entirely new industries of great magnitude and importance. It is impossible to compute the capital invested in the manufacture of chemicals, or the entire output in Great Britain, but the Board of Trade returns show that in 1899 the value of chemicals and chemical and medicinal preparations exported was £8,855,523, to which amount may be added £1,542,593 for the "products of coal" exported during the same period.

Any account of the advance of chemical industry during the past fifty years must of necessity give particular attention to the number of manufactures which have been inaugurated since the manufacture of coal gas was commenced in this country. At the early part of this century lighting by means of coal gas was a novelty, and it was not until the middle of the century that it was universally adopted. The waste products of the gas works—namely, ammoniacal liquor and tar—were difficult to dispose of, but on investigation chemists soon found them very valuable, and now our chief source of ammonia is gas liquor, and it is a matter of common knowledge that coal tar is the source of hundreds of useful products.

To show the importance of ammonia as a source of revenue to gas works it is only necessary to state that in the "fifties" it was only made in very small and quite unimportant quantities, whereas in the year 1899 Great Britain exported 140,371 tons of sulphate of ammonia out of a total production of 202,000 tons, at the average price of £11 5s. 9d. per ton. It is used very largely on the Continent as a fertiliser for "beet," grown for sugar production, and in replacing nitrate of soda as a source of nitrogen for plants.

It is computed that twelve million tons of coal are carbonised annually in Great Britain, producing 144 million gallons of tar. This forms the raw material for the coal tar industries which have assumed such magnitude and importance, and yielded so many products invaluable to mankind.

It was in the year 1856 that Perkin first succeeded in making "Aniline Violet" or "Mauve," when he was attempting to discover a method of producing quinine artificially, and a few years later that he produced alizarine from anthracene, thereby establishing the aniline dye industry.

Prior to that date all dyeing was done with vegetable compounds, or such materials as Prussian blue or chrome yellow, but since 1856 chemists have succeeded in producing all colours from coal tar, and although they are not all made from aniline (a product of coal tar) yet as a class the "coal tar dyes" are commonly spoken of as aniline dyes.

Coal tar, as produced by the gas works, is a complex substance capable of separation by distillation into numerous definite substances, and since the demand for each of these is so great the tar distilling industry is one which calls for particular notice.

As tar comes from the gas works it contains the following important constituents: benzole, solvent naphtha, tar acids, naphthalene, cresol, anthracene, and pitch, and it is the tar distiller's business to separate and purify these, as well as the products of less importance.

Benzole is used as a solvent of fats and oils in many industries, but its chief uses are (1) the enrichment of coal gas, and (2) the production of nitrobenzene for the preparation of aniline.

Tar acids are freed from the oily products of coal tar and separated into carbolic and cresylic acids and purified; for many years these were used solely for disinfecting and preserving purposes, but now they form the crude material for making the newer explosives, the manufacture of which was commenced in Germany a few years ago. During 1889 Germany imported 2,267,800 kilos. of carbolic acid from England, a great part of which was converted into explosive compounds. The manufacture of these explosives in England has assumed large proportions, and the tremendous amount of Lyddite used in warfare needs the employment of a corresponding quantity of carbolic acid.

Fourteen years ago picric acid, otherwise trinitro phenol (made by the action of nitric acid on carbolic acid) was not known to be a dangerous explosive, but to-day it is in constant use in South Africa.

Naphthalene, anthracene, carbolic and cresylic acids are all used for the production of dyes, and cresol, or "mineral creosote," is used for pickling timber, while pitch is employed for numerous technical purposes.

Mention must be made of the medicinal products which have been produced from coal tar, but as their number is legion the enumeration and properties of a few must suffice.

Nitro-benzene and benzoic aldehyde are used for flavouring and scenting purposes, because of their resemblance to essential oil of almonds. Salicylic acid and benzoic acids, hitherto only obtainable from natural sources, are prepared from carbolic acid and toluene respectively, and are largely used in medicine and as preservatives. Antipyrine, antefebrin, phenacetine, salol, and hundreds of similar medicinal preparations are synthesised from coal tar products. Disinfectants of all descriptions, and for all purposes, are prepared from carbolic and cresylic acids, and, lastly, but perhaps the most wonderful of all, is the production of saccharine. This product is more than

300 TIMES SWEETER THAN SUGAR,

and is manufactured in ever-increasing amounts (already counted by tons per annum) for sweetening purposes.

The production of saccharine, and, more recently, of artificial musk, are typical instances of the marvels which modern chemical research have given to mankind, and show how the chemist is enabled to build up (synthesise) useful products from crude materials.

In intimate connection with chemical industry is the manufacture of soap and candles. Starting with the primitive "dip," made from tallow chemical research has evolved the present improved stearin candles, and in the manufacture of soap Great Britain does an ever-increasing business. In 1897 the value of soap exported was £761,789, but in 1899 this had risen to £942,269. Here again, this industry furnished chemists with a waste product to investigate, and although the waste was formerly turned into the sewer, now it is utilised for the manufacture of glycerine. The early methods for manufacturing glycerine from soap lyes were very imperfect, and it was only in 1854 that Tilghmann introduced a really satisfactory process of manufacture. All the large soap works are now refiners of glycerine, which is put on the market in three forms—viz., (1) chemically pure glycerine, used for medicinal and solvent purposes; (2) dynamite glycerine, the name of which indicates its use, and (3) crude glycerine. Crude glycerine fetches £31 and Refined £51 per ton at the present day.

There are no available statistics showing the amount of glycerine produced, or the quantity used for the production of the important explosive dynamite (the product of the action of nitric acid on glycerine), but the enormous soap works in England are sufficient testimony that soap-making and glycerine production are paying industries which have been improved by the aid of chemistry during the latter half of the century.

The discovery of electricity, and the modern developments of electric lighting, have introduced a new field of labour for the chemist as well as the electrician, and have put in the hands of the chemist a new force with which to bring about chemical change.

Perhaps the industry of most speedy development of late years has been the production of

Carbide of Calcium,

from which the illuminating gas acetylene may be generated simply by the addition of water. It is curious how chemical progress has centered round the production of artificial light for mankind, but coal gas, the electric light, and now acetylene have all been fruitful sources of research.

The manufacture of carbide of calcium was only made possible by the introduction of the electric furnace, and there is no doubt that this means of obtaining high temperatures will eventually benefit mankind tremendously. Few chemists would have thought it possible a few years ago to generate such an important product as carbide of calcium by simply subjecting a mixture of lime and coal to the intense heat of the electric arc, but this and many other marvels have been demonstrated by the researches of Moissan.

Incidentally electricity has brought about the discovery of the properties of many bodies, and the recognition of helium by Ramsay was only possible by the examination of its spectrum in a tube excited by the electric current.

Rontgen Rays

have shown the luminescent properties of various chemicals, and the preparation of screens of plantinocyanide of barium and some of the tungsten salts are inventions in the chemical world which have already benefited mankind, if they have not founded a new industry.

The staple articles of chemical manufacture in Great Britain are alkali, bleaching materials, sulphate of copper, chemical manures, sulphuric and hydrochloric acids, cement, coal tar products, and medicinal chemicals, all of which have assumed their present magnitude during the past fifty years.

The Production of Alkali

is more than six times greater now than in the fifties, and the cost is half what it was then. The following figures will give some idea of the improvement:—

	1850.	1899.
Salt used for production of alkali ...	137,500 tons	817,171 tons.
Cost of soda crystals	£5 10s. per ton	£2 10s.

The exports of alkali from Great Britain are not so large as they were ten years ago, owing to the fact that other countries have commenced manufacturing, particularly the United States, which are the largest customers for alkali.

The introduction of new processes for the manufacture of alkali have been the means of cheapening the products considerably, and the ever-increasing consumption of caustic alkali, for the manufacture of soap and paper (particularly in the latter since straw, wood pulp, and Esparto have been introduced), have resulted in a great increase of production. In 1867 it is computed that the total output of caustic soda was 14,933 tons, while twenty years later 169,463 were produced. In 1899 the total quantity of alkali exported by Great Britain amounted to 3,808,893 cwt., valued at £1,031,623.

The progress in the methods of manufacture of alkali, and consequently of its bye-products, has been tremendous, and the engineering difficulties which it has given rise to and the enormous expenditure of money in apparatus which had to be devised for the purpose are a triumph of science, chemical invention, and enterprise.

The old method of preparing alkali from the ashes of plants was tedious and expensive, and the production limited, so that the introduction of the salt-cake process of Le Blanc, whereby alkali could be made from common salt, was the beginning of a new industry. The method depended on the treatment of common salt with sulphuric acid, and the consequent formation of sulphate of soda and hydrochloric acid. The sulphate of soda is roasted with coal and lime with formation of carbonate of soda, which can be washed out from the ash with hot water and crystallised. The utility of the process was not immediately recognised in full, for the alkali works used to allow all the hydrochloric acid so formed to escape into the air, until the Alkali Act of 1863 compelled the manufacturers to condense at least 95 per cent. of the amount evolved. This condensation yielded a large quantity of hydrochloric acid as a waste product, which was ultimately turned to account in the manufacture of chlorine.

The Le Blanc process was, however, assailed by the one Solvay invented, which produced a purer product, although it did not until recently utilise the chloride. The essentials of the Solvay process are the saturation of brine with ammonia gas and carbon dioxide, which yields sodium bicarbonate and ammonium chloride. The carbon dioxide is obtained from limestone and furnace gases, and partly by heating the bicarbonate to reduce it to carbonate. The ammonium chloride is heated with the lime and the ammonia liberated for use again. Now that Mond's process utilises the waste calcium chloride for the production of chlorine there is very little waste, and the Solvay process was gradually superseding the Le Blanc, but both are now overshadowed by the new electrolytic processes for the separation of common salt into its elements. The Hargreaves Bird process is in actual work now at Farnworth, and by the electrolysis of brine in a specially constructed cell with an asbestos diaphragm the sodium chloride contained in brine is split up into chlorine and caustic soda solution. The economy of the process resides in its yielding no bye-products and in the use of brine just as it is pumped from the springs, instead of refined salt, as the raw material.

BLEACHING MATERIALS

are used in enormous quantities for textile manufactures, and the preparation of chlorine for this purpose has proceeded side by side with that of alkali. Bleaching by chlorine was introduced into Glasgow by Watt, the well-known engineer, in 1789. In 1799 Tennant obtained a patent for preparing "bleaching powder" by absorbing chlorine with dry lime, and ever since that the manufacture of chlorine and bleaching materials have been on the increase in England. The cotton and paper industries consume enormous quantities in Great Britain, but the exports of bleaching materials amounted to 1,297,988 cwt., valued at £320,574, in 1899. It is impossible to state how much chlorine is produced annually, but a clue to the quantity may be gained from the amount of salt made. In 1850 the yield was 880,000 tons per annum, and in 1880 it was 2,020,000 tons. In 1850 the price of bleaching powder per ton was £13 15s. 0d.; to-day it is quoted at £6.

The history of chlorine is very voluminous, but a brief sketch of the subject is essential.

In 1845 Dunlop commenced the manufacture of chlorine by treating a mixture of salt and nitre with sulphuric acid. This yields a mixture of chlorine, oxides of nitrogen and hydrochloric acid, and the chlorine is purified by scrubbing first with sulphuric acid and afterwards with water. Dunlop's process was not universally adopted, the greater portion of chlorine being made by Scheele's original process, namely, the treatment of manganese dioxide with hydrochloric acid, and this in time yielded tremendous residues of chloride of manganese. Attention then turned to the recovery of this manganese, and eventually Weldon and Bramwell evolved the process for recovery of the manganese and the production of Weldon "mud." The use of Weldon "mud" did not yield the theoretical proportions of chlorine, but this was considered of little importance because hydrochloric acid was being produced in such tremendous quantities in the Le Blanc soda process; Weldon, however, foresaw the effects of the Solvay ammonia soda process, in which hydrochloric acid is not produced, and attempted the recovery of chlorine from the chloride of ammonia, which is produced in the Solvay process. The recovery of chlorine from ammonium chloride was successfully accomplished by Mond, and at the alkali works the ammonium chloride is now vaporised and passed into towers containing pills, made of magnesia and china clay, heated to 300deg. centigrade; these magnesia pills retain the chlorine and allow the ammonia to be collected; they are subsequently heated to 600deg. centigrade in a current of carbon dioxide to remove the last of the ammonia, and finally in a current of air which removes the chlorine and converts the magnesium into oxide again.

The Deacon process, used in the Le Blanc soda works, is of great importance too. This method decomposes the hydrochloric acid without the use of manganese. Towers are filled with broken brick saturated with a solution of cupric chloride and heated to 500deg. centigrade; a mixture of gaseous hydrochloric acid and air passed over this yields chlorine, nitrogen and water with a few impurities easily removed.

The improved processes above mentioned, however, seem likely to be entirely outstripped by the new elctrolytic process already mentioned under alkali.

Chlorine was used in large quantities for the extraction of gold from its ores, but the introduction of the cyanide process has superseded it, and the production of cyanide for gold mining has become an important branch of alkali manufacture. The amalgamation process and the chlorine and cyanide methods have largely increased the output of the mines and their profits.

The production of aluminium has been closely associated with the improvements in alkali and chlorine manufacture, and the wonderful inventions and discoveries of Castner have given us aluminium in useable quantities for technical and manufacturing purposes. When Castner first started his process in England, in 1887, his output was about 700 pounds daily, and he reduced the cost of the metal from fifteen shillings to five shillings per pound. Competition by electrolytic methods soon reduced the price to two shillings per pound, and now ingot metal, 98 to 99 per cent. purity, is quoted at £148 per ton, which is only 1s. 4d. per pound. In reducing the price of aluminium, Castner's researches enabled him to produce caustic alkali at 30 per cent. less cost than the Le Blanc-Weldon process, and they also resulted in the discovery of peroxide of sodium as a bleaching agent.

The production of sulphuric acid has increased in proportion as the other chemical industries have grown, and although there is nothing particularly novel in the modern methods of manufacture, yet the introduction of the Gay Lussac and Glover towers, which cheapen the cost of production have been made since the middle of the century. It is computed that 3,300 tons of sulphuric acid were made in 1830, and 1880 saw the amount increased to 940,638 tons. It is used chiefly in the manufacture of other acids and in liberating phosphoric acid from basic phosphates in artificial manures.

ARTIFICIAL MANURES.

The introduction of this group of products is comparatively recent, and natural manures such as guano, dung, and nitrate of soda are already rivalled and outstripped by phosphatic manures, sulphate of ammonia, and potash preparations. The consumption of nitrate of soda in the United Kingdom during 1899 was 123,000 tons, while the exports of sulphate of ammonia alone amounted to 140,371 tons in the same year. The manufacture of manures shows a steady increase, and during 1899 the exports from Great Britain amounted to 437,649 tons, valued at £2,429,553.

In connection with the copper industry, the production of copper sulphate has grown to a large and staple industry, the annual production of which exceeds 40,000 tons annually. Bichromate of potash, alum, iron, zinc, and lead salts are manufactured in enormous quantities for technical purposes, but the increase in production has resulted in no novelty in their manufacture.

PETROLEUM PRODUCTS.

are entirely new to the latter half of the century, and constitute an important industry in themselves, which chemical knowledge has helped to build. The separation of crude petroleum and of Scotch shale into burning and lubricating compounds is likely to grow into a bigger industry, in view of the importance attaching to the use of petroleum as fuel.

In many manufactures, compressed gases are continually in use. Oxygen and carbonic acid are the two with the largest consumption, the latter being made in tremendous quantities for brewing and aerated waters. Brewing is now carried on under the direct supervision of skilled chemists, and, together with whisky distillation, constitutes one of the largest industries of the United Kingdom. To give an idea of the amount of beer and spirits produced, the following authentic figures may be quoted:—

	1885. Gals.	1898. Gals.
Beer produced in the United Kingdom,	993,759,000	1,302,644,000
Spirits ,, ,, ,, ,, ,,	39,715,000	60,652,000

which yielded a revenue to the State of £94,301,000 in 1898.

The study of bacteriology has led to many improvements in chemical manufacture, and the important part which bacteria play in the formation of useful products requires the chemist to be acquainted with bacteriological methods of research. The manufacture of beer has been much improved since the effects of adventitious organisms in the wort has been known, and the study of the organisms which form lactic and butyric acids has altered the conditions of manufacture of butter and cheese completely. The decomposition of sewage by numerous organisms has been found so successful that it is probable the near future will see more new methods for the disposal of sewage which will enable the chemist to destroy the noxious product which is formed in such tremendous quantities in large cities by bacterial agencies alone. Lactic acid is now made in very large quantites for mordanting purposes in woollen manufacture; its production from brewers' waste by Sage's process is likely to prove an inexpensive source in time, and the method will dispose of brewery refuse, which is so troublesome.

LEATHER INDUSTRIES.

have been materially aided by the advance in chemical knowledge, and a knowledge of bacteriology is nowhere more essential than in the tannery.

Bacteriology has been the forerunner of

ANTISEPTICS.

and since carbolic acid was proved to be so serviceable by Lister, the number of antiseptics has grown to an unwieldy length. Salicylic acid, boric acid, coal tar preparations, and formaldehyde have all benefited mankind in the treatment of disease and the preservation of food. The last-named substance has sprung into prominence in a very short space of time, and its use is extending daily.

It was in the fifties that collodion was discovered, and the impetus which this gave to photography was only eclipsed when

GELATINE DRY PLATES

were introduced. The manufacture of dry plates, and more recently of dry films, is assuming tremendous proportions, and one only needs to think for a moment to realise what chemistry has made possible to photography. No statistics are available to show the amount of photographic goods manufactured annually, but the wide-spread use of the camera by amateurs, and the employment of photograph processes for illustration, constitute a livelihood for thousands of people.

Chemistry has not only made photography possible, but it is continually adding to the scope of it. The large quantities of thiosulphate of soda and pyrogallic acid used are increasing annually, and photography is always consuming silver, gold, and platinum salts, and an endless number of synthetic chemicals.

The manufacture of medicinal chemicals and alkaloids has increased by leaps and bounds since the middle of the 19th century, and it is only necessary to mention the alkaloid quinine to excite an interest in the subject. In 1850 this was worth about six times the price it stands at now, and the production has multiplied itself many times. Caffeine, cocaine, nicotine, morphine, are alkaloids which are made in very large quantities in London and Scotland. Chloroform, ether, and flavoring essences are essentially products of this half of the century, and all the multitude of products made from coal tar are even of more recent origin.

The manufacture of oils, paints, varnishes, and printing ink has improved, and many new processes and products have been introduced by the aid of chemistry. Bone oil, made by distilling bones, has led to to the discovery of several new substances, and the dry distillation of resin has given us resin spirit and resin oil.

Essential oils, which can be economically distilled, are prepared in large quantities in Great Britain. The chief ones are cloves, sandal wood, lavender, and peppermint, the quality of the two latter being unrivalled in the world.

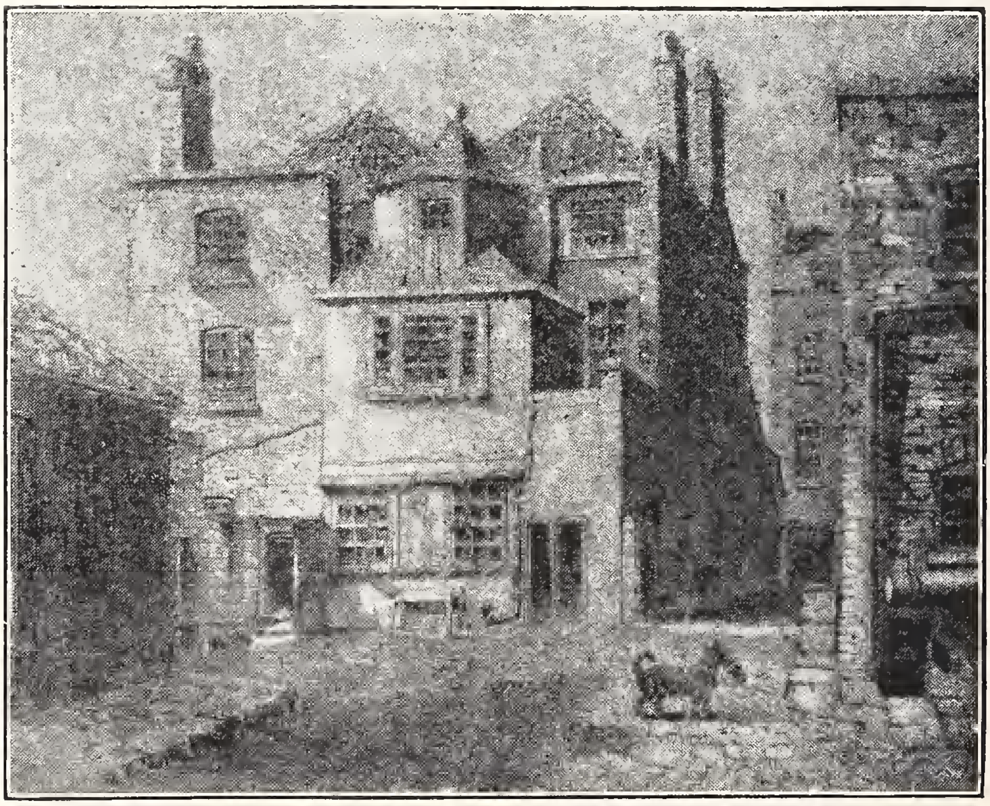
The space allotted to this article forbids the description of many other chemical products, and it has only been possible in it to briefly treat of the really important manufactures of Great Britain, but the era of chemistry has only just begun, and when we consider the rapid advance which has been made during the past fifty years, we cannot doubt that improvements will continue, and chemical manufactures increase and flourish as civilization progresses and the needs of mankind increase. The great problems of the future are the utilization of materials for food and fuel, and, doubtless, before another fifty years have passed, great changes will have taken place, of which we do not even dream at present.

GREAT BRITAIN'S OLDEST CANDLE WORKS.

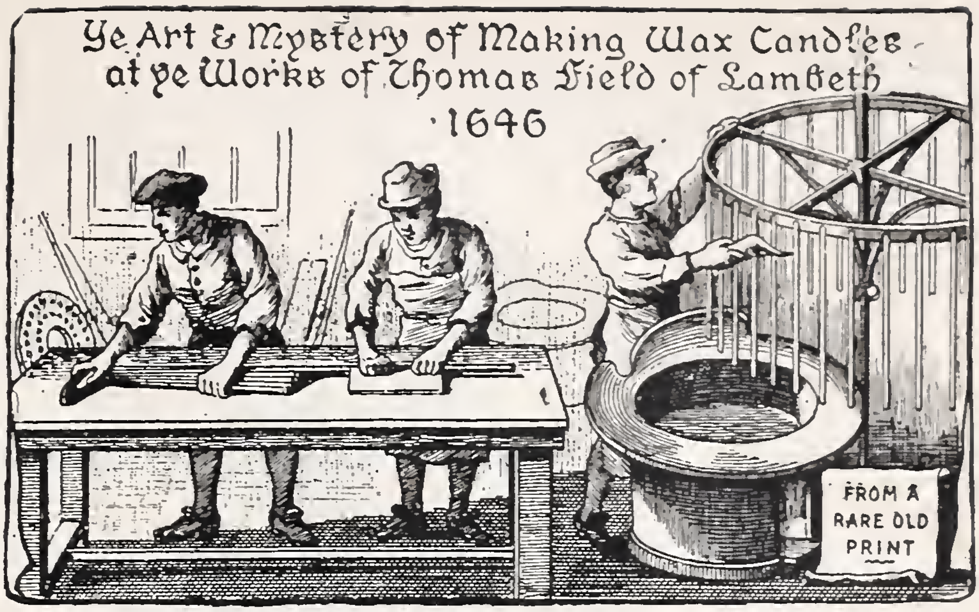
It would be difficult, perhaps impossible, to find a parallel in our National Industries to that of which Messrs. J. C. and J. Field, Candle and Soap manufacturers of Upper Marsh, Lambeth, can boast. To the Englishman of to-day the year 1642 sounds like Ancient History. He will find it hard to believe in the establishment of a manufacturing firm which was already an old affair that year, and has carried on its business *en perpétuité*, as our neighbours would say, for close upon three centuries, with an unbroken succession of members of the same family. The French have a proverb "*Le Vrai n'est pas toujours le Vraisimblable*"*!* (The True is not always the Probable!) which was never more curiously illustrated than in the story of the firm to which we refer.

Started probably long prior to the year 1642, it has been conducted by the Field family, father and son, in successive generations. Previously to the commencement of the century just closed no partnership apparently existed, but in 1800 the business devolved upon two brothers, John and Charles, and the eldest son of the former, named after his father, becoming associated with them, the business was re-constituted under the title of J. C. and J. Field. Of course in the progress of years it was modernised. It was converted into a Limited Liability Company in 1887, and now appears with the usual addendum, Limited. Another interesting fact in connection with the Company is that its business has from the day of starting until now been transacted on the same spot—Upper Marsh, Lambeth.

In 1642 Marsh represented half the great Borough of to-day. There are persons living now who will tell you that they remember the whole of the ground on which Waterloo Station with its widely extending area now stands as nothing more. But naturally the constant increase and development of the Candle and



THE OFFICES OF MESSRS. J. C. AND J. FIELD, LTD., A CENTURY AGO.

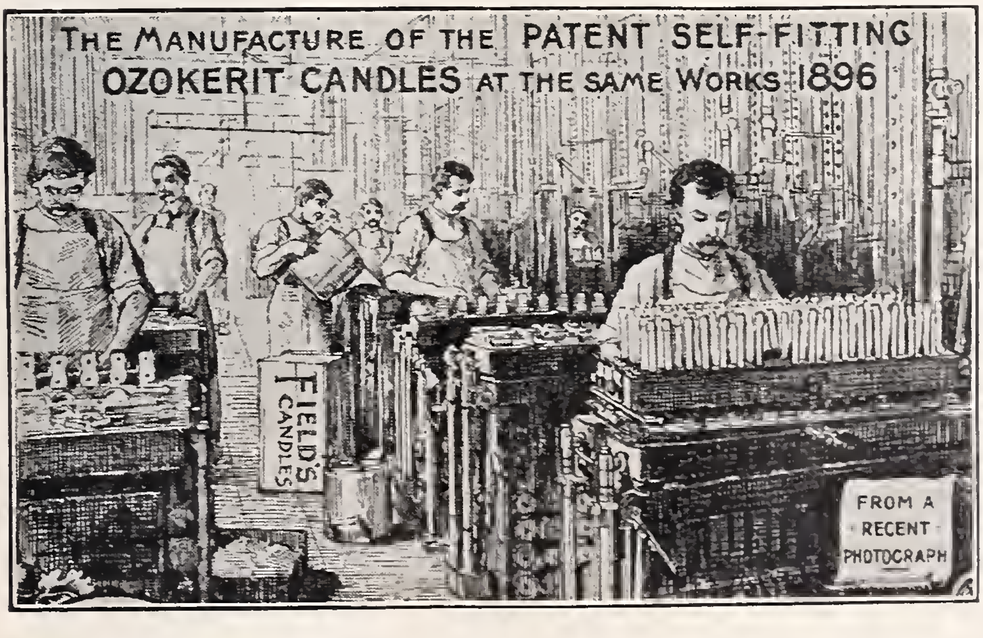

Ye Art & Mystery of Making Wax Candles at ye Works of Thomas Field of Lambeth
1646
FROM A RARE OLD PRINT

Soap Trade necessitated the establishment of branches in other localities. To pioneer a Trade or a Manufacture however is not to monopolise it. The supply of Light in the Dark hours to the United Kingdom and to the British Colonies is bound to attract Capital and Enterprise, and there are doubtless to-day prosperous rivals in the manufacture of Candles, who have a larger *clientèle* than the firm of J. C. and J. Field. But it can pride itself on having lighted up Lambeth Palace for many and many a generation, and not only having enlightened successive Archbishops, but having illumined the Royal households for almost an equal period, in token whereof it enjoys the proud distinction of using the Royal Arms. It is, moreover, Contractor to the principal State Departments.

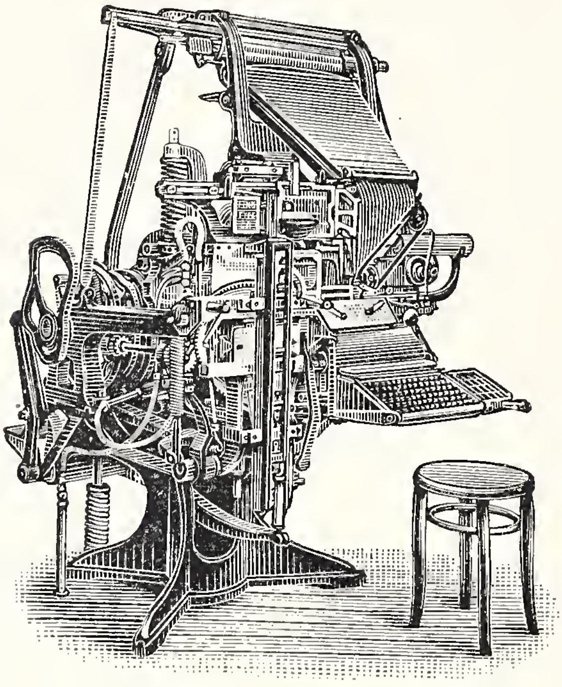
The history of the firm is practically that of the Candle Industry in this country. They began by making flambeaux, torches, and beeswax candles. In the middle of the 18th century they added a new item to their manufactures—Spermaceti Candles—and within the last 50 or 60 years they have put before the public in rapid succession Stearine and Candles made thereof about 60 years ago, Paraffin Candles in 1851, and Coloured Candles, which are now so much in vogue in the boudoir, in 1859, and in 1862 the self-fitting ends. Ozokerit Candles of high melting point were introduced by them in 1870, and they claim justifiably that every known design or shape, cabled, fluted, aërated, and other useful and fancy kinds of Candles originated with them. They supplied George IV. with nightlights in 1823, and the wax taper which was once an article of furniture in every study and dining room, has been manufactured by them for 150 years together with its companion—Sealing Wax.

How great is the progress made in the manufacture of Candles and Soap within the last 50 years is shown in the Annual Statements of the trade of the United Kingdom. In 1850 no return was made of our exports of Candles and Soap. It was not worth printing. In 1898 the total value of the exportation of these tems was £1,158,777.

As awards have been obtained at every exhibition at which the manufactures of Messrs. J. C. & J. Field have been displayed with, in nearly every case, the highest prize, they must have had their full share in the supply of the foreigner. Of the awards received the most important have been London, 1851; London, 1862; Dublin, 1865; York, 1866; Paris, 1867; Havre, 1868; Turin, 1868; Lyons, 1872; Moscow, 1872; Dublin, 1872: Peru, 1872; Vienna, 1873; Chili, 1875; Philadelphia, '76; Glasgow, 1880; Calcutta (4), 1883; London (3), 1884; Paris (2), 1885; London (2), 1885; Edinburgh, 1886; London, 1886; Adelaide, 1887; London, 1891; Brussels (5), 1897; London, 1900.


THE MANUFACTURE OF THE PATENT SELF-FITTING OZOKERIT CANDLES AT THE SAME WORKS 1896
FIELD'S CANDLES
FROM A RECENT PHOTOGRAPH

THE LINOTYPE COMPOSING MACHINE.



THE LINOTYPE.

HISTORY.

THE Linotype, pronounced by the "Engineer" (the leading Engineering journal in London) to be "the most remarkable machine of this century," is the outcome of about twelve years of continuous experiment and invention, and the expenditure of a sum of money very nearly approaching a million pounds sterling.

It marks the first and only successful departure from the long-established forms of movable type and the primitive methods of hand composition. It is the only machine which is in practical, successful use in any considerable number of printing offices, and the only machine which has effectually withstood the test of time.

Many machines and processes were developed by its inventor and his associates, each marking an advance in the art. First in order were matrix machines, designed to punch letters one after another in lead or papier-mache, and thus produce a page or column matrix from which to cast a stereotype at a subsequent operation. Next came machines in which a number of dies were composed in a line, the line justified, and the entire line then impressed at one operation in some matrix material. During the development of the matrix machine the revolutionary step was taken of casting from the machine-made matrices independent type-lines or slugs, now known the world over as "linotypes." This raising of the unit of composition from a single letter to a line, the production of each line complete and independent of the others, has proved to be the most radical and important invention in the printing art since the days of Gutenburg, Koster, and Caxton.

The next and last great improvement was the production of a machine in which the linotypes were produced instantly and ready for use on the press by the mere fingering of keys like those of a typewriter, the keys serving to assemble temporarily in line metal matrices bearing individual letters, against which the slugs or linotypes were cast in type metal.

This machine, known to-day in every land as the Linotype, is now extensively made in two factories in the United States, one in England, one in Canada, and another in Germany, giving employment to some three or four thousand hands; and it is being regularly employed in most of the leading newspaper offices of the world, and also by many hundreds of book and general printers.

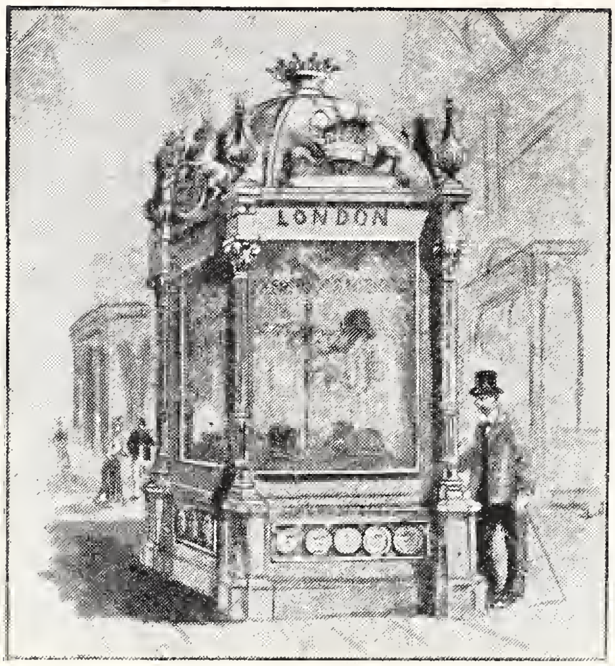
Operated by a single person, the machine produces and assembles linotypes ready for the printing press at the rate of from 6,000 to 20,000 letters per hour. It produces finished matter of the highest quality. It permits the face or style of type to be changed at will. It allows the operator to read and correct his matter as he proceeds, thus avoiding the usual errors in correction. Any person of intelligence can, in a few days, become a good operator, and in a few weeks an expert.

The first Linotype machines were introduced into a printing office in the United States in 1886, and they are still in successful daily use. They entered the first office in Great Britain in 1890, and succeeded in doing most satisfactory work. But it was decided to develop and improve the invention to its fullest possible extent. To this end the action of the machines was carefully watched, the requirements of the printing office were studied, and the advice of skilled printers and mechanics was sought in all directions. In the light of the information thus gained, the machine has been modified, improved, increased in capacity, and made adjustable or convertible to meet every demand. New tools and machinery have been devised, and the "interchangeable" system employed in the manufacture of all its parts. The result is the present standard Linotype, a machine marvellous in speed, approaching perfection in the quality of its product, and unsurpassed in the perfection and action of its diversified movements.

The Linotype is recognised as one of the wonders of the century, and it has received the endorsement of the highest authorities in engineering and mechanics. Wherever exhibited the machine has obtained the very highest awards, including Diploma and Medal of the Chicago World's Fair, 1893; the Diplome D'Honneur et Diplome de Medaille D'Or, Antwerp Exhibition, 1894; the Gold Medal of the British and Colonial Exhibition, Manchester, 1894; the Gold Medal of the Birmingham Exhibition, 1894; Cross of Honour and Gold Medal of the Amsterdam Exhibition, 1895; the Gold Medal Diploma of the Brussels International Exhibition, 1897; and Gold Medal of the East London Diamond Jubilee Exhibition of Trade and Inventions, 1897-98; Gold Medal of the Grahamstown Exhibition, South Africa, 1898; Certificate of Merit, Darlington Arts and Trades Exhibition, 1899; Gold Medal of the Aberdeen Trades Council Exhibition, 1899.

Full particulars of the machines can be obtained at the Linotype Company's Stand in the Education Science and Arts Department, Group 3, Class II, where the machines are at work in the production of a high-class Exhibition Bulletin in conjunction with the "Daily Graphic."

GREAT BRITAIN'S MOST UNIQUE HAT MANUFACTURERS.



THE above description, which was applied to the business of Messrs. LINCOLN, BENNETT & Co., Ltd., by the Editor of "The Court Circular," holds good to-day, and will be readily endorsed, not only by all those interested in the Hat industry, but by every well-dressed man who pays attention to his headgear.

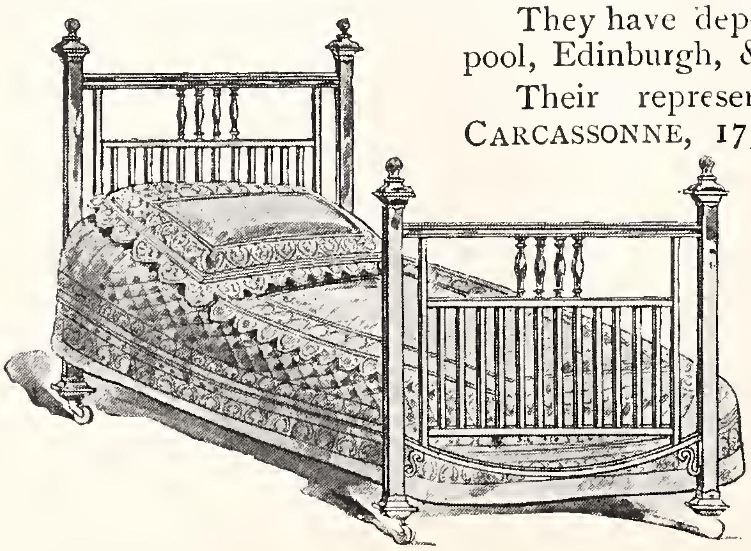
The firm in question has works at Stockport, executes its wholesale and shipping business from 23-25, Nelson Square, and 19-20, Charlotte Street, Blackfriars Road, London, S.E., and attends to the wants of the fashionable world at 1, 2 & 3, Sackville Street, and 40, Piccadilly, W. It was established in the year 1807, by the brothers STROUD and BENJAMIN LINCOLN, who were joined some years later by Mr. JOSEPH BENNETT, and whose son, Mr. JOHN FLETCHER BENNETT, carried on the business for many years. They were the first who introduced Silk in place of Beaver, and were the inventors of the celebrated "Pull-over" Felt Hats. Their hats are found in every city of the civilized globe, from Paris to Vladivostock, and many of the crowned heads are amongst their clientéle. They make hats of every description, silk, felt, diplomatic, naval and military hats and helmets, and also ladies' hats. They have obtained highest awards and medals at every important Exhibition, and their display at this present Paris Exhibition can be well judged from the accompanying illustration, which depicts their stand situated in the Invalides Buildings, Class 86. Anyone visiting the Exhibition should not fail to pay a visit to this stand.

HOYLAND & SMITH, Ltd.,

High-class Bedstead Manufacturers,

BIRMINGHAM, ENGLAND.

ALTHOUGH there may be makers of Bedsteads who have a larger factory and do a more extensive turnover than Messrs. HOYLAND & SMITH, they certainly stand at the top of the tree as far as the manufacture of Bedsteads of the highest class is concerned. For these they have for years past enjoyed an excellent reputation, and their object has always been to supply the very best. Wholesale buyers when placing their Orders should certainly never miss to obtain quotations and sketches from the old-established firm in question, and the ordinary householder when about to furnish or refurnish his house, should certainly specify for Bedsteads made by Messrs. HOYLAND & SMITH, Ltd., whose Works are situated at Western Road, Spring Hill, Birmingham.



They have depôts at London, Manchester, Liverpool, Edinburgh, &c., &c.

Their representative in France is M. G. CARCASSONNE, 17, Rue Réaumer, Paris.

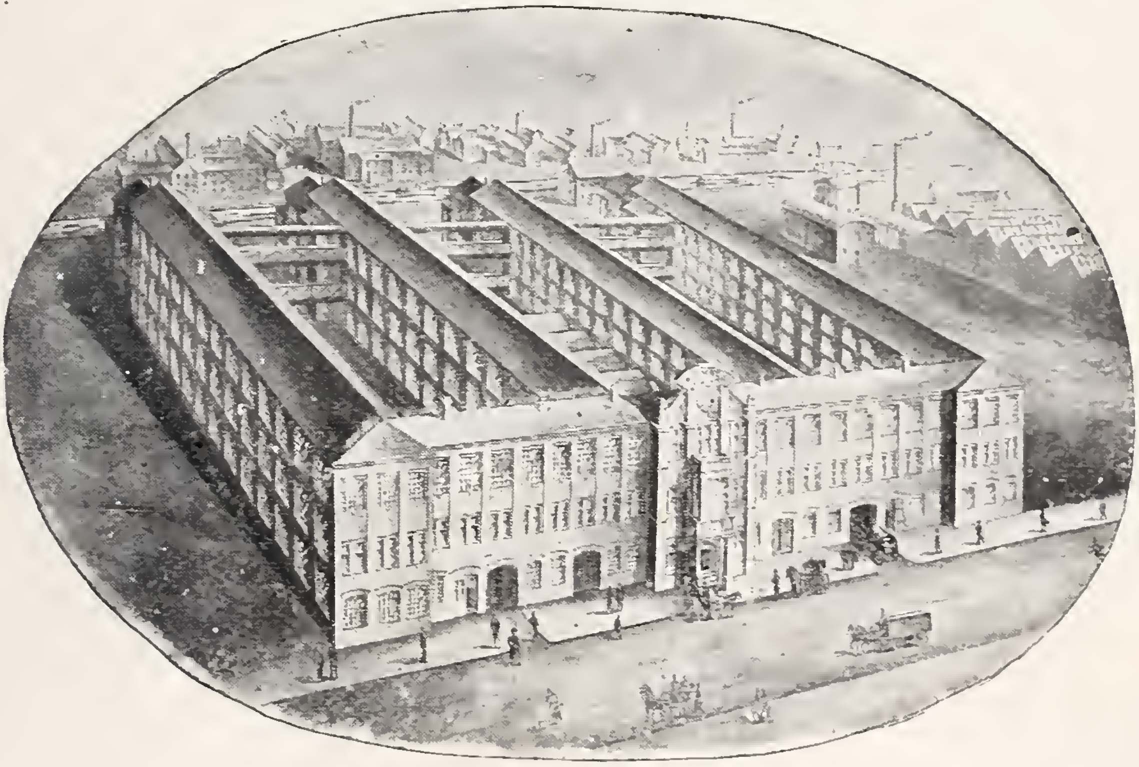
The accompanying illustration depicts the latest style put on the market, namely—the CHIPPENDALE Bedstead, made entirely of plain square tubes. Full particulars of this pattern, and illustrations and details of other new designs, can be obtained on application to either of the above addresses.

THE MODEL FACTORY OF THE BRITISH EMPIRE.

ALTHOUGH it cannot be denied that we have made material progress during the past few years in the construction of "up-to-date" factories, fitted with every conceivable convenience, we are, in this respect, behind the Americans, who have produced some marvellous establishments that absolutely "stand alone." It has been the privilege of the writer to inspect hundreds of factories in all parts of the world, but he can assert, without exaggeration and fear of contradiction, that the Works erected under the supervision of Mr. R. F. Hall, and known throughout the world as the Stellite Works, Cheston Road, Aston, Birmingham, undoubtedly take the front rank, as far as Great Britain is concerned, for originality of construction, simplicity, and usefulness of general arrangement. The Factory, three storeys high, which covers about three acres, was completed in early part of 1898, and an idea of its size and general arrangement may be gathered from the accompanying illustration.

The front block of the buildings facing Cheston Road, 225 feet long, 30 feet deep, consists of three floors, and has a noble frontage, broken in the centre, and the two ends by projecting "forwards" from the straight line.

All the offices on the first floor open off one long corridor, running from end to end, and perfect communication with all parts of the Works is arranged from this section. The Second Floor is occupied entirely with the Finished Stores, and Invoice Office, and is connected with the Goods Outwards Department by an electric lift.



The factory proper consists of four blocks, A, B, C and D, each block being a complete factory by itself in every respect.

The Stellite Works are the property of the British Electric Works Co., Ltd., and the Company is developing a large business in Ordnance; and amongst their clients are numbered the War Office, the Navy Department, and some of the largest Ammunition Manufacturers in the United Kingdom.

The principal section of the work carried on by the Company is, however, expressed by its name. By the aid of the very latest machinery, upon which thousands and thousands of pounds have been spent, this enterprising firm is now turning out a series of electrical fittings of every description which, in quality, variety, and price, compare favourably with anything produced in this country or on the Continent of Europe. The business is a young one, but the trade has been, and is, extending at such a rapid rate that it bids fair to outclass its rivals within a comparatively short space of time. The British Electric Works Company, Ltd., are in a position to compete with foreign markets, and are willing to supply intending purchasers with all particulars of the goods they are turning out, and will forward such particulars upon application to Stellite Works, Cheston Road, Aston, Birmingham, England.

THE UNITED ASBESTOS COMPANY LIMITED
·LONDON·
INDESTRUCTIBLE

"SALAMANDER."

UNITED ASBESTOS Co. LTD. LONDON
PURE ITALIAN MILLBOARD EXTRA QUALITY
INDESTRUCTIBLE
A1

"SALAMANDER."

Asbestos in Great Britain.

THE Trade Marks, illustrated at the top of this page, are to be found on all standard asbestos goods, and are the property of the United Asbestos Co., Ltd., of Dock House, Billiter Street, London, who have depôts and agencies in all the principal trading centres of the world. This company is the pioneer concern in the mining and manufacturing of asbestos, and occupies the front rank in this industry.

They own asbestos mines in Italy and Canada, and carry on mining operations on a very large scale. The crude asbestos is dealt with at the works at Harefield, near London. Here it first goes into the sorting and opening department, where the blocks of fibre or rock are crushed, opened up, and cleaned by special machinery. The long fibre then undergoes the process of carding, condensing, and spinning, the machinery being somewhat similar to that used for ordinary textile fabrics, although, owing to the peculiar nature of asbestos, greater difficulties are encountered in connection with its treatment. The thread, some of it being strengthened for particular purposes by the addition of fine brass wire in the process of spinning, is then passed to the weaving department, where it is made into cloth of varying widths and degrees of fineness, or braided into yarn packing for glands. The cloth is then treated in the India-rubber department, where it is proofed and made into "rubesto" sheeting, tape, and rings for steam and other joints, and also into various kinds of packings. There is another department for the manufacture of millboard and paper, considerable quantities of the production of this department being embossed in high relief from designs by eminent artists, and used for the interior decoration of buildings. These goods are known as the "Salamander" decorations. The shorter fibres are converted, in the boiler covering department, into non-conducting compositions for covering steam boilers and pipes, and for which the company enjoys a wide reputation.

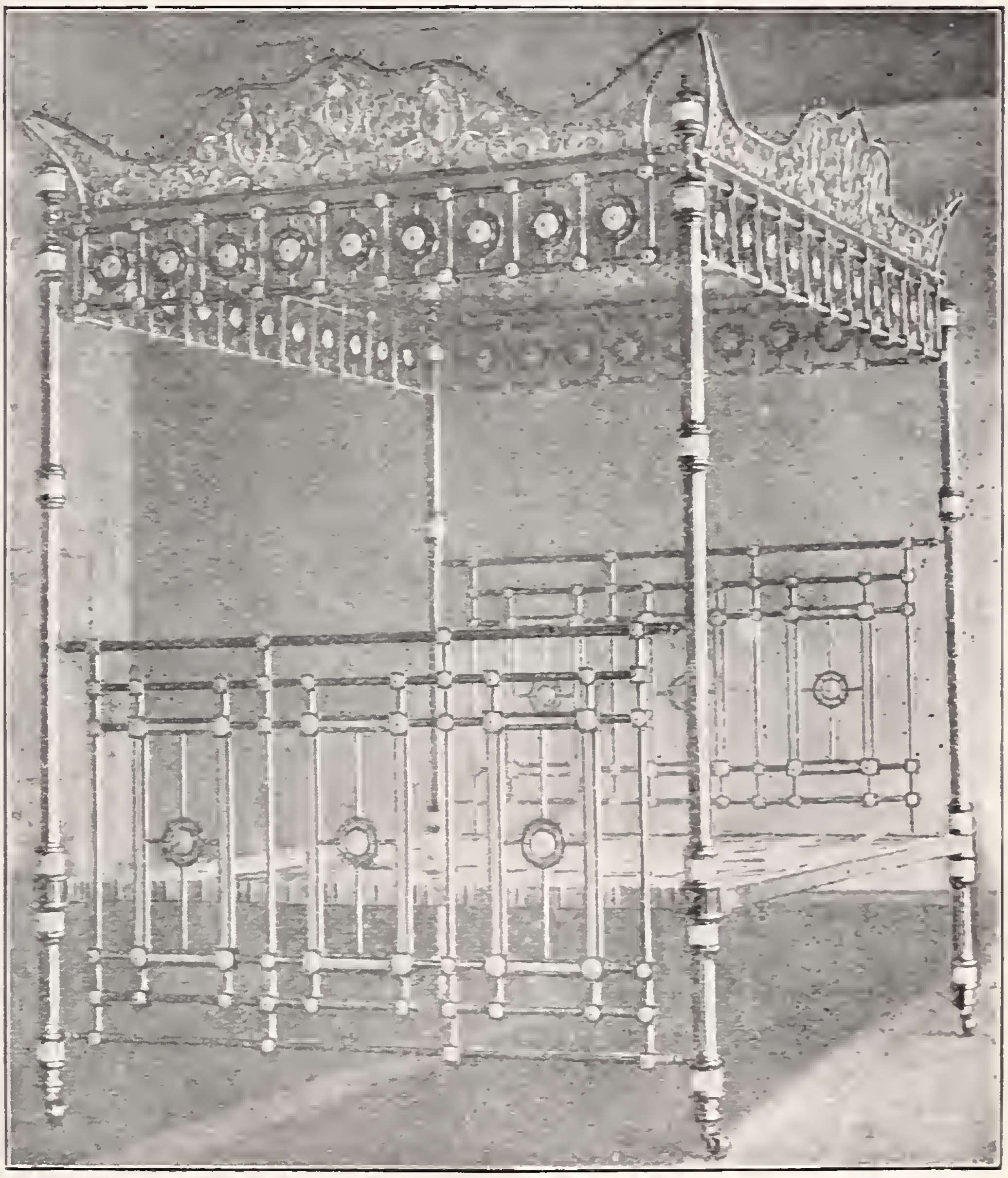
Space does not permit of reference to the many other varieties of goods turned out at the United Asbestos Company's extensive factory, but those for which it is specially noted are the "Victor" metallic packings and jointing materials, largely used for many years in the Royal and mercantile navies, "Eclipse" and "Gladiator" packings, and "Salamander" joints, for engines working at the highest pressures.

Anyone interested in anything appertaining to asbestos cannot do better than apply to the head office of the company, at Dock House, Billiter Street, London, for the illustrated catalogue, and the admirable description of the mining, manufacture, and uses of asbestos, as given by Mr. J. Alfred Fisher, the general manager of the company, in a paper read by him before the Institute of Marine Engineers.

BRIERLEY & SONS,

Essington Works, Birmingham, England,

MAKERS OF METALLIC BEDSTEADS OF EVERY DESCRIPTION.



LARGE FOURPOST BEDSTEAD.

THE above firm is one of the oldest amongst Bedstead Makers, having been established upwards of 40 years. As to its position, it need only be mentioned that Messrs. Brierley & Sons are Contractors to the War Office, and that their manufactures are well-known in all parts of the world. They are noted for their combination bedsteads, and have a right to be proud of their variety of black and brass French bedsteads, as well as their ordinary brass bedsteads, which they make in all styles, elaborate and cheap, so admirably depicted in their pattern book, obtainable post free on application to the Head Offices at Essington Works, Sheepcote Street, Broad Street, Birmingham, England.

A new departure has lately been made by the introduction of plain brass square tube bedsteads in imitation of wooden bedsteads, the most up-to-date novelty in this class, having a shield or panel of art coloured glass, the latter being retained in its proper position by leads similar to those used in ornamental windows and fire screens. The care bestowed upon the detail work in connection with these novelties deserves great praise, and only confirms the reputation which Messrs. Brierley & Sons have long enjoyed for the excellent finish of all their goods, however cheap. Their success in business is in a large measure due to the careful study of details, all the departments being under the personal supervision of one of the partners, both of whom are well versed in the technique of bedstead manufacturing.

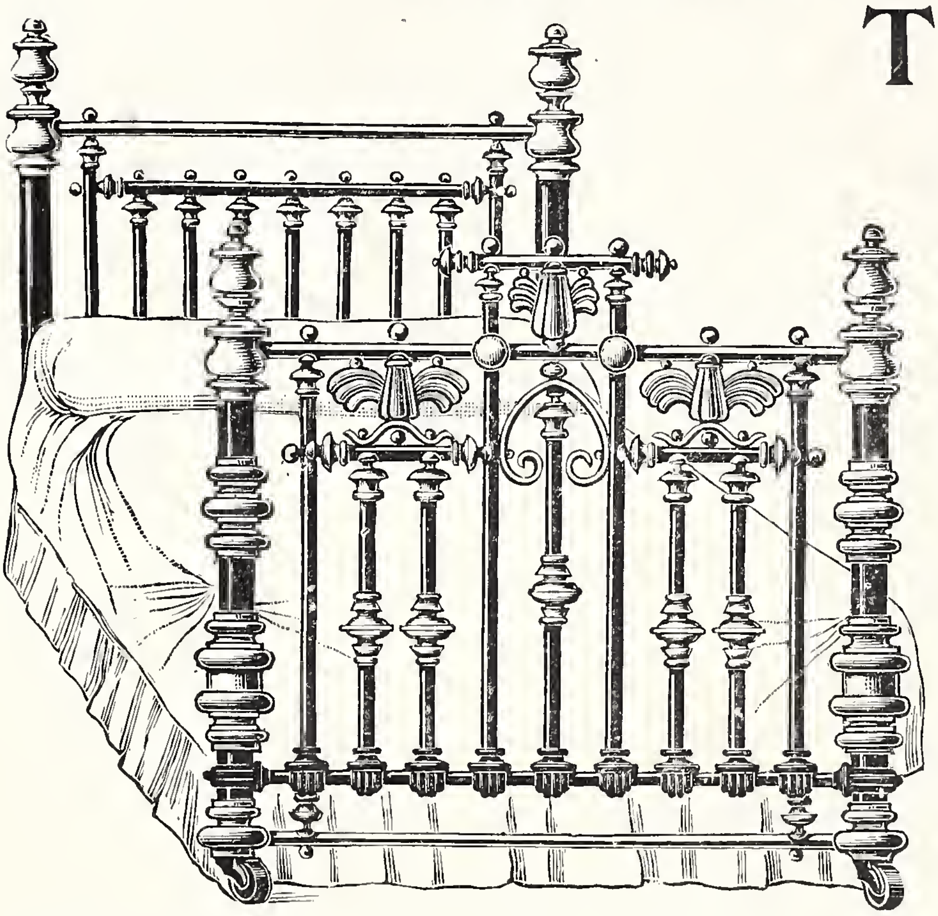
In the accompanying illustration a large fourpost bedstead, specially constructed to the order of an Indian Prince, is shown. Its size is as follows: 9ft. 6in. by 7ft. 6in.; extreme height about 12ft. All the iron parts are nickel plated, the pillars and every rod in the rails and cornice being ornamental tubes, hand-burnished and lacquered in a rich gold colour. The pillars, head and foot rails and lower cornices are all decorated with pearl, upwards of 450 pearl rosettes, besides other pearl work being used in this decoration. The weight of the bedstead unpacked was just over 12 cwt., and when packed in four cases $19\frac{1}{2}$ cwt. Surely a splendid example of the very best workmanship.

John & Joseph Taunton, Ltd.

SHERBOURNE ROAD, BIRMINGHAM, ENGLAND.

Manufacturers of

BRASS & IRON BEDSTEADS, COTS, FOLDERS, CHAIRS, BERTHS FOR SHIPS & RAILWAY CARRIAGES, & WOVEN WIRE MATTRESSES OF EVERY DESCRIPTION.



THIS enterprising and up-to-date firm has conducted an ever-increasing business for upwards of half a century, and stands to-day well to the fore. Every whim or fashion is followed with prompt alertness, and the buying public in all parts of the World have only to ask to have.

Among John and Joseph Taunton's recent productions may be mentioned a series of brass bedsteads in the Sheraton and early English styles. The designs, owing to the exigencies of construction are necessarily somewhat "free," but they nevertheless meet the modern idea of having the bedstead "en suite" with other furniture.

Another feature is a make of combination bedstead with body-frame and mesh (patent) in one piece. The head and foot ends nest inside the frame. This reduces the cubic contents to the minimum, and the bed being light, but all of steel, therefore strong, and the price low, it appeals strongly to Colonial and Foreign buyers, who cannot purchase better value.

Of late years, Messrs. Taunton have devoted much attention to Hospital and Asylum bedsteads. In 1898 they were successful in securing the order for the celebrated New Birmingham General Hospital. The bed found great favour with the numerous professional visitors to this establishment, with the result that they have since been supplied in large quantities to other leading Institutions. As Messrs. Taunton rely in a large measure upon the support of their Colonial and Foreign friends, they study most carefully their requirements. They realise fully that, for export, skilled packing is of as much importance as up-to-date goods, and, besides exercising constant care in this direction, they are now developing a new patent for close packing, which promises to be most valuable to both purchaser and manufacturer, as it is expected to save a large proportion of the space at present necessary. Complete catalogues and price lists of every description of bedstead and mattress, forwarded free upon application.

The Lambton Collieries, Limited.

HEAD OFFICES:

E, QUEEN STREET, NEWCASTLE-ON-TYNE, ENGLAND.

COLLIERIES AND WORKS:

IN THE COUNTY OF DURHAM, ENGLAND.

THE LAMBTON COLLIERIES, LIMITED, produce large quantities of Coal adapted for various purposes:—Household, Gas, Steam, and Manufacturing. They are also large manufacturers of Coke, chiefly used for Blast Furnaces.

Fireclay goods of all descriptions such as Sanitary Pipes, Bends, Junctions, Lumps, Fire Bricks, &c., are made at the Works of the Company, near Fence Houses, in the County of Durham.

The Lambton Collieries, Limited, possess thirteen Collieries in all, which produce 3,000,000 tons of Coal per annum. The Collieries are situated in the Eastern part of the County of Durham, and the Coals are shipped at various ports on the East Coast; chiefly at their own Staiths, in the River Wear at Sunderland, also on the Rivers Tyne and Tees. They own a fleet of twenty-two Steamers, and employ over 11,000 men and boys at their various Collieries and Works.

Household Coal.—This Coal is produced from the famous Hutton Seam in the Eastern part of the County. It has been acknowledged for half a century to be the very finest Coal of the kind procurable. It has been used for many years in the Royal Palaces at Windsor, Buckingham, and Osborne. It contains very little ash, which is of a dark brown colour and very heavy, thus giving a minimum of dust in a room. The Coal burns very openly and gives off great heat.

Lambton West Hartley Steam Coal.—This Coal is produced from the Upper Seams. It is largely worked by Machinery, which gives a very high percentage of large Coal. The evaporative power of the Coal is between 15 and 16 lbs., its Calorific value is 8,320, and its percentage of ash only 2·14. It is used by the Swedish Government on their State Railways, it is shipped in large quantities to the West Coast of South America, it is used in the British Navy and Navies of other Nations, and is well adapted for all steam-raising purposes.

Lambton Gas Coal.—A very large quantity of this Coal is produced, and is used at many of the most important Gas Works in Europe. The yield of Gas per ton from this Coal is about 11,000 cubic feet, with an illuminating power of 19·5 candles. The sperm value per ton is 622 lbs., and the ash produced is only 2·48. Special attention is called to the remarkable yield of Coke, which is equal to 67 per cent. This is a very important factor in Continental cities where Coal is scarce and costly.

Lambton Coke.—This Coke, both chemically and mechanically, is of a very excellent nature. The analysis is as follows:—

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Ash	3·89
Volatile Matter	·87
Fixed Carbon	95·06
	100·00
Sulphur	1·05

Fireclay Goods are manufactured to a large extent. The Clay is obtained from underneath the Main Coal Seam, and is very suitable for the manufacture of Firebricks and Sanitary Pipes, which are required to stand high temperatures. It has been found, by careful experiments, that an 18 inch Sanitary Pipe one-tenth of an inch thick, made from this Clay, will withstand a crushing strain of 8,457 lbs. before breaking, and that the same pipe will stand an internal pressure of 28 lbs. per square inch. A 12 inch pipe has withstood a pressure of 60 lbs. per square inch, and a 9 inch pipe 45 lbs. These pipes are burnt uniformly throughout, they are perfectly straight, and of a true circular form. Being very hard and well glazed they absorb very little water. They are perfectly smooth on the inside, and free from any adherent substances which might tend to impede the flow of sewage.

Perfected System of Wood Block Flooring.

WOOD block flooring has been in use for many years past, but the system which has now been adopted by the leading Governments and architects in all parts of the world is that known as Charteris and Longley's Patents. It is rightly claimed for this system that it possesses unique advantages over all other wood flooring, since the plan of laying the blocks renders it possible to adopt every variety of pattern, in all kinds of wood, in a manner which is simple and economical, and which has never failed to give complete satisfaction to all parties concerned. Visitors to the Paris Exhibition will see the flooring under Charteris and Longley's Patents in practically all the Government buildings, and they will be struck by its entire simplicity.

The inventors claim, amongst others, the following advantages for it:—

1. Absolute RIGIDITY under any circumstances.
2. Adaptable in blocks of ANY SIZE, and in ANY WOOD.
3. Great VARIETY OF PATTERNS possible.
4. Especially suited to large AREAS, BASEMENTS, SCHOOLS, CORRIDORS, etc.
5. Affords beautifully smooth surface for dancing and other purposes.
6. SANITARY, NOISELESS, DAMP-PROOF, ROT-PROOF, AND FIRE-RESISTING.

In addition to the above, the following advantages over any other system in vogue at present should be borne in mind:—

a. NO LOOSE TONGUES OF DOWELS to be left out by careless or inefficient workmen.

b. Laid as EASILY as the old-fashioned square-block flooring.

c. Impossible to MOVE ANY SINGLE BLOCK when once in position, EXCEPT under our SPECIAL SYSTEM; adapted for hot-air, gas, water, and other pipes, and hereafter to be described.

d. FIRMLY HELD to the substructure by means of our SPECIALLY PREPARED MASTIC COMPOSITION.

e. Mastic Composition EFFECTUALLY HOLDS the blocks under VERY HIGH TEMPERATURES; it NEVER becomes BRITTLE; it has a NATURAL AFFINITY for all kinds of wood, and ADHERES equally WELL to CONCRETE.

f. SURMOUNTS A DIFFICULTY LONG EXPERIENCED BY ARCHITECTS, viz., that of obtaining EASY ACCESS to HOT-AIR, GAS, WATER, and OTHER PIPES, for purpose of REPAIRS, etc., WITHOUT DESTROYING or INJURING the MAIN FLOOR, as will be seen by reference to the following sketch.

Further particulars and prices regarding this unique system can be obtained on application to the head offices at 31-33, King William Street, London, E.C.

The best testimonial as to the value of Charteris and Longley's system will be found in the fact that the patronage of clients and customers for all requirements has always been continued, after a trial order has been secured, in spite of the fact that the prices are necessarily somewhat higher than the general market scale. Additional testimonial, if any is needed, will be found in the fact that Charteris and Longley's wood block flooring has been adopted by Her Majesty's Admiralty, War Office, Office of Works, Commissioners of Prisons, School Board for London, and innumerable Provincial School Boards, and the French and American Governments.

Space does not permit of a recital of the names of the eminent architects and surveyors who are specifying for the system under discussion, but a list, together with fuller details, will be forwarded on application to the head offices at 31-33, King William Street, London, E.C.

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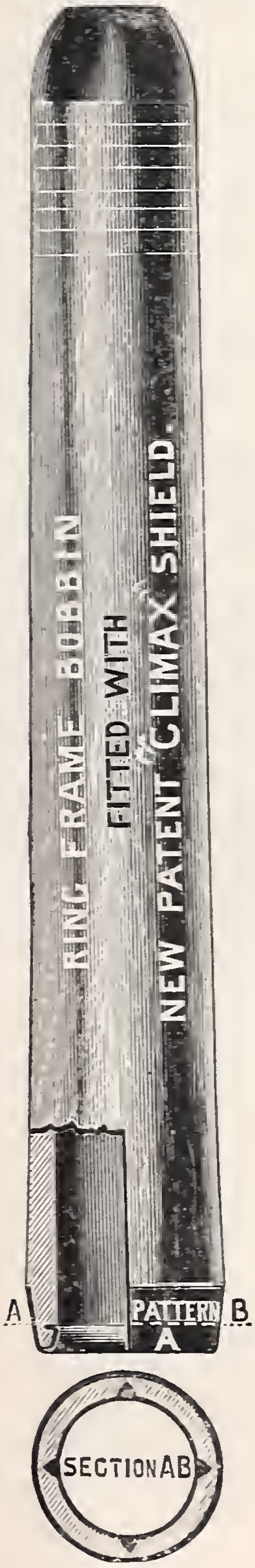

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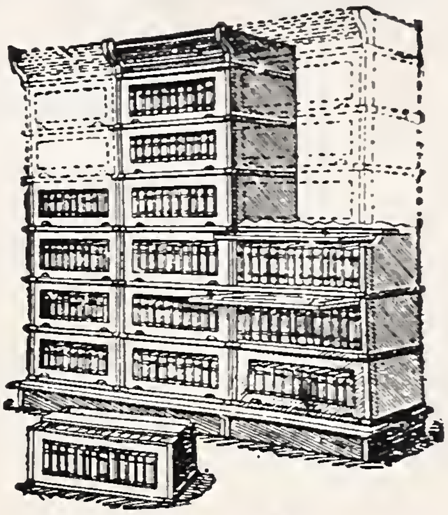

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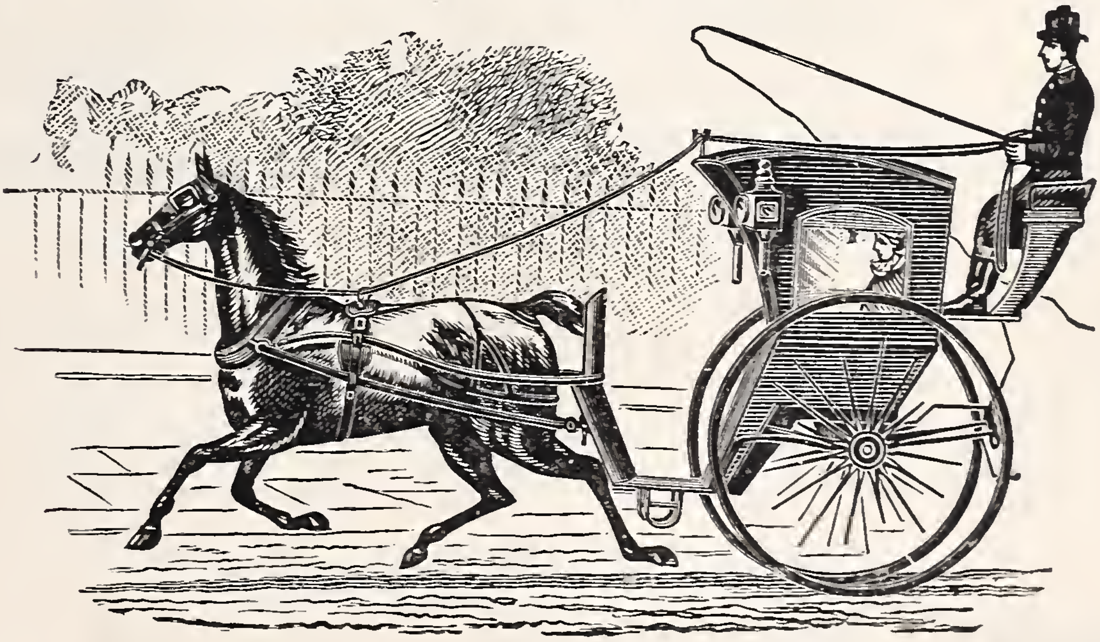

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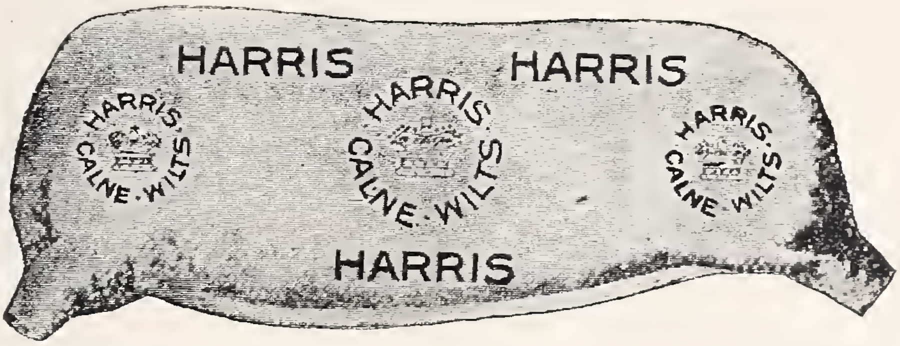

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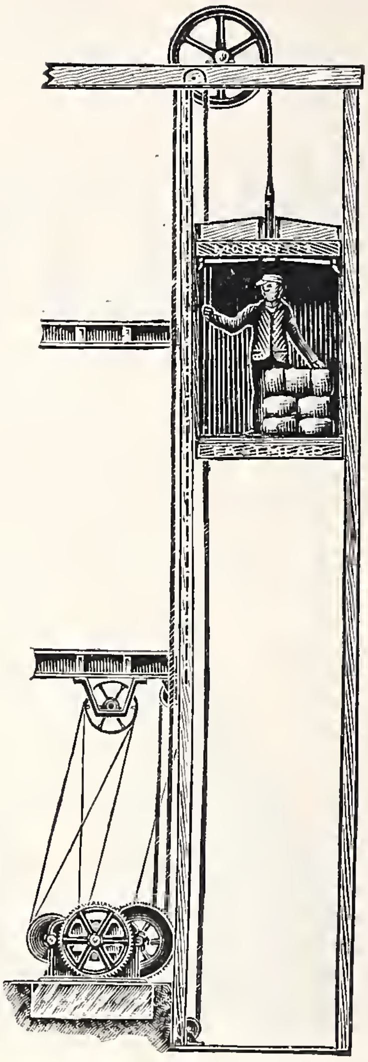

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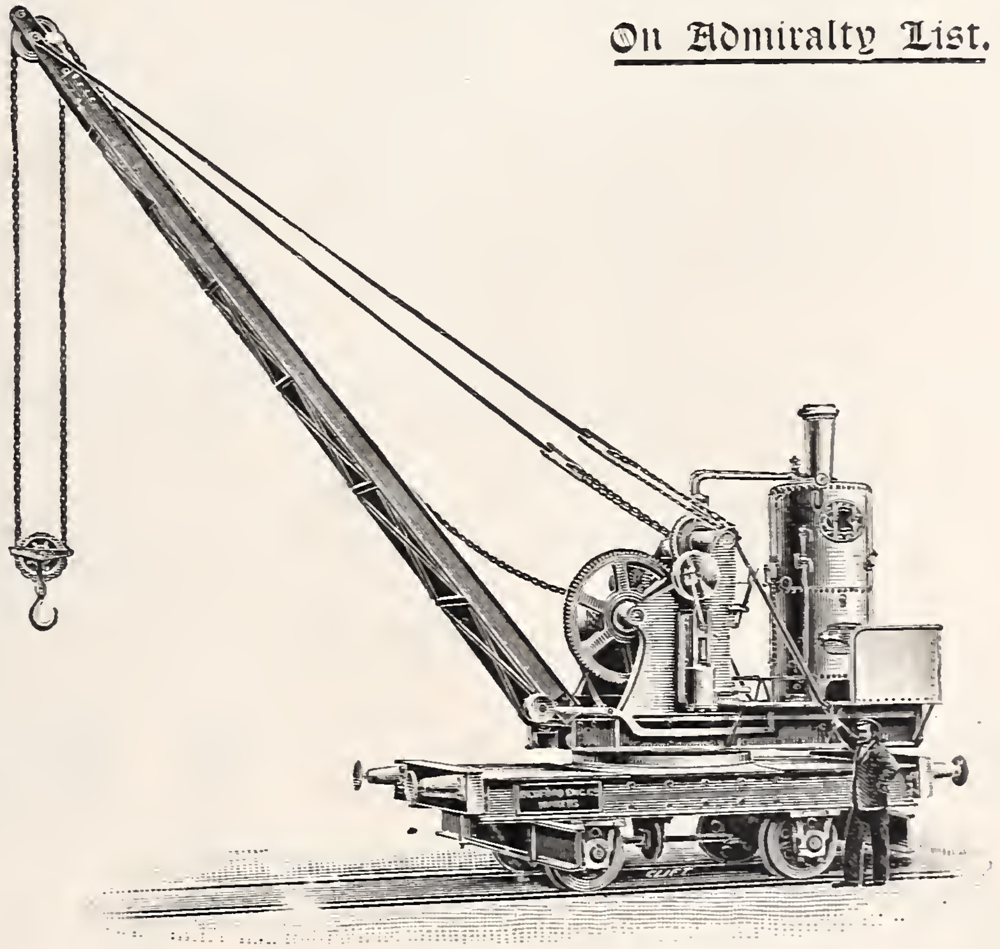

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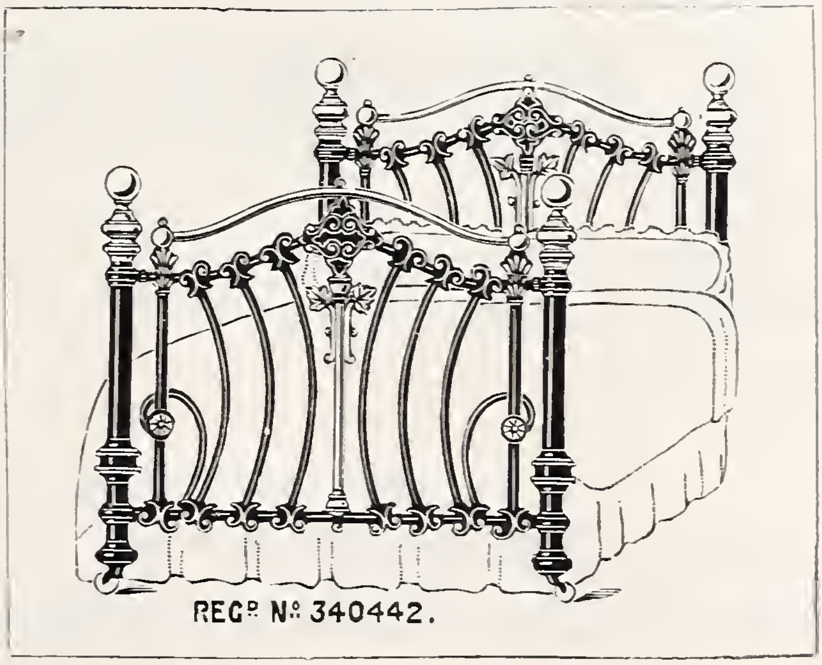

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